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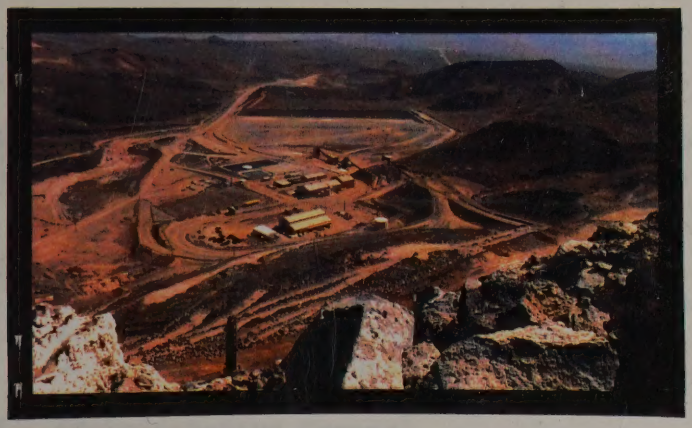

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CHAPTER I - GENERAL

I. Introduction.

Mineral exploration and development has increased significantly on BLM administered lands in Nevada. Exploration and development methods involve more land area than in the past and operations are generally larger. It is therefore important that Bureau personnel stay abreast of ongoing operations and assure that necessary reclamation of disturbed areas are completed.

The Federal Land Policy and Management Act (FLPMA) of 1976 directed the Secretary of the Interior to take any action necessary, by regulation or otherwise, to prevent unnecessary or undue degradation of the public lands. In 1981, the BLM established the 43 CFR 3809 regulations to manage surface activities of exploration and mining operations on certain public lands. This handbook contains the procedures to be followed in implementing the 43 CFR 3809 surface management regulations in Nevada. It should be used in conjunction with the regulations, the Bureau 3809 manual, and other program guidelines and established policies.

II. The Authorized Officer and Delegation of Authority.

A. Delegation of Authority.

BLM Manual 3809.04 outlines the responsibility of the Director, the State Directors, and the District Managers. Implementation of the surface management regulations and the role of the Authorized Officer (AO) as defined in 43 CFR 3809.0-5(a), are delegated to the District Manager. The District Manager is the AO. At the discretion of the District Manager and in accordance with BLM Manual 1203, an individual acting on his behalf, may be designated the Authorized Officer's Representative (AOR). The AOR may be a Resource Area Manager and/or any staff specialist with a thorough knowledge of public land laws, departmental decisions, the mining laws and case law that govern surface management of locatable minerals, as well as a working knowledge of current mining and reclamation practices.

B. Signing for the Authorized Officer.

The AOR may be delegated the authority to sign documents that constitute a decision which may be appealed; i.e., contain correspondence, plan approval, and noncompliance, but the documents must be signed "for the District Manager." Signing authority would be most appropriate for the Resource Area Manager or a well-trained, competent field person who could sign documents on-site, thus avoiding unnecessary delays. Each district is advised to formally designate the AORs and clarify which documents they have the authority to sign "for the District Manager."

III. Involved Lands and Regulations.

A. Lands Subject to the Surface Management Regulation.

The 43 CFR 3809 regulations and this handbook apply only to those federal lands which are subject to the mining laws and in which both the surface and mineral estates are administered by the Bureau. The regulations and this handbook do not include Stockraising Homestead lands or lands where only the mineral interest is reserved to the U.S. or lands under wilderness review or acquired lands administered by the Bureau.

Other surface management regulations apply to public lands under other designations or those administered by other agencies. Mining operations on BLM land under wilderness review are regulated by 43 CFR 3802. These regulations are similar to the 3809s and are designed to prevent impairment of suitability for inclusion in the wilderness system. Once a wilderness designation is approved, surface management of mining claims within a BLM managed wilderness is regulated by the 43 CFR 3809 and 8560.4-6 regulations.

Regulations governing acquired mineral exploration and development are found in 43 CFR 3500. Regulations for mining common variety minerals and petrified wood are found in 43 CFR 3600.

B. Other Surface Management Agencies.

Various federal, state, and local agencies govern activities both on and off 3809 regulated lands. In Nevada, one of the more involved state agencies is the Nevada Department of Conservation and Natural Resources, Division of Environmental Protection (DEP). The DEP implements several of the environmental protection laws including regulation of discharges to water, disposal of solid and hazardous waste and air emissions. The two principal areas of impact related to mining are water and air.

The air quality section of the DEP issues permits of two general types. A Surface Area Disturbance Permit is issued to allow for the clearing of a site of 20 or more acres. Prior to construction of the milling and mining facilities, a Permit to Construct is issued governing emissions for crushing, screening, grinding operations, furnaces, etc.

The water and ground water sections of the DEP issue permits regulating the discharge of pollutants to surface and ground waters. Most permits issued are "zero discharge" permits which require no discharge from the facility. This zero discharge criteria is applied to heap leach facilities and most mill tailings disposal sites.

The DEP requires that each designed fluid management system be able to withstand a 25-year, 24-hour storm event combined with a 48-hour power outage and associated drain down of fluids in the heap leach cycle. In addition, all sources must be able to withstand and remain competent during the run-off from a 100-year, 24-hour storm. Solution ponds are required to be double lined with a leak detection system. In certain cases, permits are issued regulating the disposal of mine dewatering operations.

Other federal, state, and local agencies govern wildlife, health, safety, sanitation and conservation practices on lands within their jurisdiction. To the extent it is practical, districts should coordinate permitting and compliance actions with other agencies, and provide assistance as appropriate. Coordination efforts should be documented in the case file.

C. Memorandum of Understanding.

Provisions set forth in 43 CFR 3809.3-1 give BLM the flexibility to establish a joint federal-state program for managing certain mining activities on BLM managed lands. In October 1986, the BLM and the State of Nevada, Department of Conservation and Natural Resources signed a Memorandum of Understanding (MOU) to provide for coordination and cooperation for permits which propose the use of cyanide in mining operations (see Appendix 1).

In order to utilize cyanide and acquire a zero discharge permit from the state, an applicant must submit hydrogeologic and climatic information on the proposed site and detailed design drawings of the fluid management system, including heap leach pads, ponds, piping circuit, mill circuit, and tailings dam.

A plan of operations or notice submitted under the 3809 regulations proposing the use of cyanide is not considered complete until a copy of the state zero discharge permit is received in the appropriate district office along with any stipulations and supporting environmental documents, or a statement from the state agency that the permit is in the process of being acquired, or that a permit is not required. A plan of operations may be approved stipulating that cyanide cannot be utilized in the operation until the necessary permit is acquired from the state.

IV. Administrative Control.

The proper handling of a notice or plan of operations is essential to meeting the time frames required by the regulations. Date stamping, log-in, and land status checks are described in Manual 3809.7.

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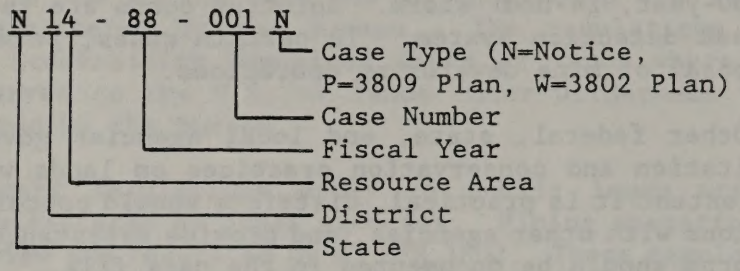
CHAPTER I - GENERAL

A. Serialization.

The district or resource area office shall serialize and record in a log each notice and plan of operation. The serialization format to be used in Nevada is shown below:



The case number must start over with the beginning of each fiscal year.

B. Filing and Files.

A filing system, whether it be in the district or area office, should consist of an individual file for all activities relating to notices and plans of operation. For plans of operation and appropriate notices, a six-way folder will be used as follows:

- Compartment 1 (inside front cover). Chronological summary of events, copy of completed ADP screens, case closure reports, etc.

- Compartment 2 (front side of 1st divider). Compliance reports, working maps and overlays, and other related items.

- Compartment 3 (back side of 1st divider). Plan of Operations or notice with map, plan approval or notice acknowledgement.

- Compartment 4 (front side of 2nd divider). Plan of Operations or notice amendments. Amendments are chronologically numbered.

- Compartment 5 (back side of 2nd divider). Case processing material - staff review, environmental assessment (EA), cultural survey, state permits, etc.

- Compartment 6 (inside back cover). Correspondence, including notices of noncompliance.

When a case is closed, the case file is to be removed from the active record filings and filed among the closed cases. As the 3809 case files are currently unscheduled records, closed case files must be retained at the district office until the Bureau Records Officer obtains approved disposition authority from the National Archives and Records Administration.

C. Documentation of Case Files.

To properly implement the 3809 regulations, it is imperative that all actions be carefully documented in the files. Each district office should make certain all actions are documented in the case files. The AO or AOR will ensure that this function is performed and a current and accurate filing system is maintained. It is important to note that without documentation the Solicitor's Office will not be able to prosecute Bureau contests. Proper documentation may prevent unnecessary judgement against BLM. Appendix 2 contains a comprehensive list of information to be included in each case file.

D. Automated Program.

The need for better management and statistical control of the surface management program has necessitated that an automated tracking system be developed for Nevada. Nevada has developed Mineplan Notices Aspen/2 data base with both a PC (Wang and IBM "clones") and a DPS8 version of the program. The program and procedures for loading and accessing the data base are described in Appendices 3 through 6 and are listed as follows:

Appendix 3 - Procedures for Loading and Accessing Mineplan Notices Data Base

Appendix 4 - Mineplan Notices Data Base

Appendix 5 - Description of Enhancements, Menus, and Commands Resident on the Data Base

Appendix 6 - Data Entry Screens

The type of activity placed in the data base (E8-Activity) will coincide with one or more of the types of activity listed on the 3809 Compliance Inspection Report form (Illustration 4).

The status of all notices and plans will be maintained by the automated system and will be updated at least biweekly.

V. Upfront Coordination.

A key element of the 43 CFR 3809 program in Nevada is emphasis on upfront coordination by BLM with the operator, other users of the public lands and the general public.

A. The General Public.

The District Managers or Resource Area Managers should keep the public aware of issues and actions in the surface management program. This will vary by location but in other areas has included presentations to local public groups, raising general issues to District Advisory Council (DAC), consultations with county and city, etc. Each AO needs to identify the best way to present the program in his/her local area. In some districts, DACs have been a useful tool to identify the scope of what's needed locally.

B. Other Users of the Public Lands.

It is important to coordinate with those public land users that might be affected by the proposed operation. Issues of conflicts with users should be reviewed, keeping in mind our multiple use mandate.

Although the rights of the mining law are very strong, an approach of coordination and cooperation is a good policy where users of the public lands are encouraged to work out problems beforehand.

C. The Operator.

Managers and staff need to try to develop outreach programs for informing operators of regulations and policies. On a statewide basis contact the State Office regarding statewide efforts, e.g., mining permit workshops held on a regional basis.

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CHAPTER II - CASUAL USE

I. Definition.

"Casual use" is activity that causes negligible disturbance of federal lands and resources. Activities are generally considered casual use if they do not involve the use of mechanized earth-moving equipment or explosives, and do not occur in areas designated as closed to vehicle use. Some activities that may be considered casual use are claim staking, prospecting and sampling with hand tools, gold panning, and use of small suction dredges with less than 4-inch intake. No notification to or approval by the AO is required for casual use operations.

II. Monitoring.

The district will monitor casual use operations, to the extent that is practical, to ensure that neither unnecessary nor undue degradation occurs and that reclamation is performed. Through routine field examinations, the district should inform the casual use operator of whom to consult within BLM regarding cultural resource disturbance (3809 Manual .22A3) or any other concerns. If the district determines that casual use activity has grown to a level warranting the filing of a notice, the necessary steps as outlined in Chapter III will be followed.

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CHAPTER III - NOTICE

I. Definition.

Operators exceeding casual use in project areas causing a cumulative surface disturbance of five acres or less, including access across federal lands, must file a notice with BLM (43 CFR 3809.1-3). A "project area" is defined in 43 CFR 3809.0-5(i). Before an operator may conduct additional operations under another notice on essentially the same ground, all necessary reclamation of disturbed lands covered under a previous notice must be completed. An operator may amend an existing notice to include new or additional operations so long as the cumulative surface disturbance of five acres is not exceeded.

II. Implementation.

According to 3809.1-3(b) of the regulations, the approval of a notice is not required. Consequently, a notice is not a federal action (Sierra Club v. Penfold, Case No. A86-083 Civil) and does not trigger actions under the National Environmental Policy Act, Bald Eagle Act, National Historic Preservation Act, or any other federal legislation. It is the responsibility of BLM, under a notice, to protect the environment through communication with the mining industry and specific operators prior to field operations, and especially, through compliance inspections of existing operations (see Chapter VI). No bonds can be required for operations conducted under a notice.

Although no special form or format is necessary in developing a notice, the operator is required to submit certain information to the appropriate BLM district office under 43 CFR 3809.1-3(c). To assist the operator in meeting these requirements, an outline (Illustration 1) is provided for use by the operator in developing a notice. A written notification of a proposed operation is to be received by the appropriate BLM district office at least 15 calendar days before the operator commences operations.

III. Processing Steps.

Upon receipt of a notice, the Authorized Officer (AO) will be responsible for:

1. Making sure the case is filed in the proper office. It is not uncommon for an operator to send a notice to the wrong district or area office.

2. Date stamping and serializing according to district office procedures.

3. Determining whether the filing describes activities at the casual use, notice, or plan level.

4. Determining the land status. An operation pursuant to the 3809 regulations can only occur on federal lands which are open to mineral entry under the mining laws, regardless of whether a mining claim has been filed, or on federal lands currently closed to mineral entry that were properly located prior to withdrawal and have been maintained to the present.

If a notice filing is on a claim that has been withdrawn from mineral entry and declared null and void, and if this status is appealed by the claimant, the claimant/operator will be informed to restrict activity to casual use during the pending appeal.

5. Assuring that if the proposed operation, including access, is not on federal lands as defined in 43 CFR 3809.0-5(c), that the submission be redirected and that the operator be informed of the proper procedures.

6. Determining whether the operation is adjacent to lands controlled by other federal surface management agencies (SMAs). If the effects of the mining operation would be evident on other SMA lands, the appropriate agency will be notified by phone, with a follow-up letter, within **5-working days** of notice receipt, and asked to comment. Note that the SMA, including BLM, may **recommend** mitigating surface disturbance measures, but for notice level activity, the operator is not subject to any requirements unless unnecessary or undue degradation has, or would, occur.

7. Notifying the appropriate state agency; i.e., Division of Environmental Protection (DEP) that the proposed operation may disturb a live stream or create discharge that could affect the hydrologic regimen.

8. Acknowledging receipt of a notice and informing the operator of any deficiencies pursuant to 3809.1-3(c), and requesting additional information within **5-working days** after receipt in the proper BLM office. Reminds the operator that operations shall not commence until 15 days after a complete notice has been received.

9. Determining whether the operator is someone other than the claimant. If this is the case, an earnest attempt will be made to notify the claimant that operations are scheduled to begin on his claim(s), and that he is fully liable for performance of all reclamation requirements of 3809.1-3(d) that are not satisfactorily performed by the operator.

10. Ensuring that a **complete** notice receives a review by staff specialists commensurate with the scope of the proposal and the nature of the lands involved. A review checklist (Illustration 2) should be completed and placed in the case file for documentation with the items below emphasized. The review must be completed within **15 calendar days** of the receipt of the notice. The review should determine if unnecessary or undue degradation would result from the proposed operation. Also determines if consultation with the operator is needed or a field inspection is necessary.

a. Cultural and Paleontological Resources: After a Class I Inventory (literature and records review) by a cultural resource specialist, if it is revealed that significant paleontological resources may exist, or that cultural resources listed on, or eligible for inclusion in, the National Register of Historic Places may be adversely affected, a BLM cultural resource specialist shall conduct the appropriate Class II or Class III inventory of the area of disturbance and allow the operator to proceed as scheduled. However, if historic properties are located during inventory, advise the operator by telephone and certified mail of his responsibilities, and state that a knowing violation of the Archaeological Resources Protection Act will result in a Notice of Noncompliance. The Bureau shall complete compliance promptly, formulate mitigation measures, and allow the operator to proceed. Any mitigation costs will be borne by BLM (3809 Manual .22).

b. Threatened and Endangered Species: If the processing of a notice reveals that a potential conflict with a threatened or endangered species exists, the AO will notify the operator and the mining claimant of the conflict by telephone and certified mail, return receipt requested. Advise the operator not to proceed, and state that a knowing violation of the taking provision of the Endangered Species Act (ESA) will result in a Notice of Noncompliance and may result in criminal penalties. If the operator wishes to develop measures that will eliminate the conflict, the AO will arrange for the participation of BLM geologists, biologists, and if needed, the U.S. Fish and Wildlife Service.

11. Activities described in the notice shall be evaluated for the proposed use of nuclear or hazardous materials. If it appears that cyanide will be used in the operation and the operator has not provided one of the following:

a. a copy of the zero discharge permit from the State DEP including attached stipulations and any environmental documents that may have been prepared, or

b. a statement from the DEP that the permit is in the process of being acquired, or

c. a statement from the DEP that such a permit is not required; then the AO shall advise the operator that the notice is not complete without the permit or statement. Utilization of cyanide by the operator without the zero discharge permit or appropriate DEP statement will result in a Notice of Noncompliance and notification of the activity to the DEP.

12. If cyanide is to be used in the proposed operation, and open solution ponds are to be utilized, then the following guidelines will be considered in protecting wildlife from cyanide related mortalities:

a. Open solution ponds to which migratory birds have access must be of low enough cyanide concentration that mortalities do not occur.

b. Open solution ponds containing lethal levels of cyanide must be covered in a manner that will prevent or at least inhibit access by avian wildlife.

c. Uncovered open solution ponds toxic to wildlife must be made unattractive to wildlife using proven or tested techniques.

13. Determining if the notice contains information identified by the operator to be confidential and proprietary. If so, the provisions of BLM Manual 3809.5 shall be followed.

14. Assuring that any findings in the notice review that need to be communicated to the operator will be signed by the AO or the AOR signed "for the District Manager." All recommendations and instructions will be clearly outlined and delivered, in person, or sent to the operator within the 15-day deadline, unless other arrangements have been made that are agreeable to the operator.

15. Inputting the notice into the Mineplan Notices Aspen/2 data base. Updating the data base as necessary.

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CHAPTER IV - PLAN OF OPERATIONS

I. Definition.

Plans of operation describe mining activities on federal lands which:

1. generally use mechanized earth-moving equipment or explosives and cumulatively disturb more than five acres, or

2. exceed the level of casual use operations as defined in 3809.0-5(6), and are conducted in one of the special category lands described in 43 CFR 3809.1-4(b), or

3. involve an operator who could normally operate under a notice, but has established a record of noncompliance and, as a result, has been required to file a plan pursuant to 43 CFR 3809.3-2(e).

II. Implementation.

An approved plan of operation is required prior to conducting any of the above described activities. Although no special form or format is necessary in developing a plan of operations, the operator is required to submit certain information to the appropriate BLM district office (43 CFR 3809.1-5). To assist the operator in meeting these requirements, an outline (Illustration 3) is provided for use by the operator in developing a plan.

In processing plans, or modification of plans, special consideration must be given to those operations necessary for timely compliance with requirements of federal or state laws (such as assessment work). Pending final approval of the plan, the Authorized Officer (AO) shall approve any operations necessary for timely compliance with those requirements, subject to terms and conditions needed to prevent unnecessary or undue degradation.

III. Processing Steps.

The steps in processing a plan are as follows:

1. Making sure the case is filed in the proper office. It is not uncommon for an operator to send a plan to the wrong district or area office. Processing times do not start until the case is received by the proper BLM office. The operator needs to be made aware of this provision.

2. Determining whether the filing describes activities at the casual use, notice, or plan level.

3. Date stamping and serializing according to district office procedures.

4. Determining the land status to assure that the proposed operations, including access, is on federal lands as defined in 43 CFR 3809.0-5(c). An operation pursuant to the 3809 regulations can only occur on federal lands which are open to mineral entry under the mining laws, regardless of whether a mining claim has been filed, or on federal lands currently closed to mineral entry that were properly located prior to withdrawal and have been maintained to the present.

If a plan of operation is filed on lands currently withdrawn from mineral entry, and if the claims have been declared null and void, and the decision is under appeal, the claimant/operator will be informed to restrict activity to casual use during the pending appeal. If casual use operations will not satisfy assessment work requirements some notice level activities may have to be accepted. If entry for operations is formally denied the operator should be notified of procedures for requesting a deferment of assessment work (43 CFR 3852), or the need to annually file a notice of intent to hold the claims (43 CFR 3833).

If a plan of operations is submitted for lands within a designated wilderness area, refer to the 43 CFR 8560 regulations. Prior to approving operations which may be detrimental to wilderness values, the claim(s) will be examined to see if valid rights exist under the mining laws.

5. Redirecting the submission and informing the operator of proper procedures if the operations and/or access are not on federal lands.

6. Determining whether operations are adjacent to lands under other federal surface management agencies (SMAs). If the effects of the mining operation would be evident on other SMA lands, the appropriate agency will be notified promptly and asked to comment. Note that the (AO) shall not require mitigating measures of the operator, which may be recommended by the SMA, that are beyond those necessary to prevent unnecessary or undue degradation.

7. Acknowledging receipt of a plan and informing the operator of any deficiencies pursuant to 3809.1-5(c). Request additional information within 10-working days after receipt in the proper BLM office. As part of the requirements of 3809.1-5(c), a complete plan must address the location and nature of any structures and facilities, and identify their function in relation to the proposed operations. This will strengthen BLM's position in the event that residential occupancy becomes an issue. The acknowledgement letter must:

a. Identify the team leader for review.

b. Advise the operator how to contact the team leader.

c. If necessary, advise the operator that additional information is required, and that assistance in developing a reclamation plan or measures to prevent unnecessary or undue degradation is available through BLM upon request.

8. If the operator is not the claimant, a copy of the acknowledgement letter should be sent to the claimant. The claimant must be notified that he is fully liable for all requirements of the regulations and the plan that are not satisfactorily performed by the operator.

9. If the plan of operations proposes the use of cyanide, assure that the operator has acquired, or made application for a zero discharge permit from the Department of Environmental Protection (DEP) (see Chapter III (III)(11) and Chapter I (III) (c)).

10. If the plan proposes a refuse disposal site, assure that a letter of authorization has been received from the DEP. Refuse disposal sites involving mining operations are classified as a Private Class III Landfill and are authorized under the state's solid waste disposal regulations.

11. When a complete plan has been properly filed by an operator, the AO must ensure that it receives a review by staff specialists commensurate with the scope of the proposal and the nature of the lands involved. This includes consideration of the guidelines for cyanide related wildlife mortalities as discussed in Chapter III (III)(12). Complete the appropriate field investigations, inventories and reports, including recommendations on bond requirements, in sufficient time to support the preparation of an environmental assessment (EA) within the 30 calendar day time frame.

12. The AO must notify the operator by certified mail within 30 calendar days of receipt of a properly filed plan advising the operator of one or more of the following circumstances:

a. The plan is approved. If the operator is not the claimant, inform the claimant of plan approval.

b. The proposal would cause unnecessary or undue degradation and identify additional needs or mitigating measures that the operator must agree to before the plan can be approved. Current policy regarding off-site mitigation is that it may be accomplished on a volunteer basis by operator if worked out with all concerned, but we do **not unilaterally mandate off-site mitigation** unless consistent with a specific regulation.

c. An additional amount of time, not to exceed 60 days, is needed to consider public comments on the proposal.

d. The plan cannot be approved until 30 days after a final environmental impact statement has been prepared and filed with the Environmental Protection Agency.

e. The plan cannot be approved until BLM has complied with Section 106 of the National Historic Preservation Act or Section 7 of the Endangered Species Act.

13. If the plan of operations is not approved, assures that all necessary actions, as described in steps b. and c. above, are completed and documented.

IV. Plan Modification.

Significant modifications to the plan are made through the same review and approval process as an initial plan. Minor matters (3809 Manual .36B) are handled as compliance matters during field inspections or through correspondence and telephone conversations. Document any variations in the case file.

V. State Clearinghouse Coordination.

For the purpose of this part, the AO is responsible for determining if the activity is a significant action. Significance is a management determination based on the size, location, environmental impact and relative level of controversy associated with a proposed project and its relation to state responsibilities, programs, and the expressed interest of the state.

If the proposed plan of operation is determined to be significant, then 15 copies of the EA/plan of operation will be provided to the State Clearinghouse and one information copy will be sent to the State Director (NV-933).

The State Clearinghouse will normally provide their response to a Bureau action within 30 days of receipt, or within such time as otherwise mutually agreed upon for a specific proposed action.

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CHAPTER V - ENVIRONMENTAL ASSESSMENT

I. Regional Analysis.

General environmental concerns relating to operations conducted under the Mining Laws will be addressed on a regional basis as part of the Federal Land Political and Management Act (FLPMA) land use planning process. When amended or rewritten, the Resource Management Plans (RMPs) will incorporate these environmental concerns as directed in the Supplemental Program Guidance. Environmental issues related to 3809 plans are specified for a case-by-case consideration (BLM Manual 1624.21B). In all cases, an environmental assessment (EA) will be prepared for a plan, unless an environmental impact statement is determined to be necessary.

II. Scope of the Environmental Assessment.

The EA evaluates the plan in the context of the requirement to determine impacts, to prevent unnecessary or undue degradation, and to provide for reasonable reclamation of the lands and resources under the Bureau's jurisdiction. Some plans will include a mixture of federal and non-federal lands. The BLM's analysis will focus on the effects of the entire project. The extent of the analysis is resource dependent, i.e., cultural resources would be site specific, wild horse impacts may extend throughout the Herd Area, while socio-economic effects may be local or regional.

III. Processing the Environmental Assessment.

A. Format.

See Appendices 7 and 8; Bureau Manual, MS1790; and Bureau Handbook, H-1790-1.

B. Alternatives.

Alternatives to be considered in an EA for a plan could include, but not be limited to:

1. A no action alternative.

2. Plan approval without any additional mitigating measures, (this may be the applicant's proposal).

3. Plan approval with reasonable mitigating measures to offset impacts and prevent unnecessary or undue degradation (normally, the preferred alternative).

C. Special Environment Issues.

In the preparation of the EA document, the following special environmental issues must be addressed:

1. Cultural Resources. Each plan will be reviewed by a cultural resource specialist and a minimum of a Class I inventory will be made. Where the Class I inventory reveals that cultural resources listed on, or eligible for inclusion in, the National Register of Historic Places may be adversely affected, a Class II or III inventory, as appropriate, will be made. Unless weather or other conditions cause inaccessibility to an area, the inventory shall be completed within the 30-day plan review period and reported to the operator. Where cultural resources are found to be within the area of operations, the plan will not be approved until compliance with Section 106 of the National Historic Preservation Act is completed. Inability to complete mitigation within 30 days of the 106 determination will not be sufficient cause to withhold approval or reject a plan (BLM Manual 3809.22A2).

2. Paleontological Resources. Each plan will be reviewed by a cultural resource specialist and an inventory, the equivalent of a Class I cultural inventory, shall be made. All provisions in Section .22B of the BLM Manual 3809 will be met.

3. Threatened and Endangered Species. If processing a plan indicates that a potential conflict exists with a threatened or endangered species or its habitat, the AO shall notify the operator and the claimant by telephone and by certified mail, return receipt requested, that the plan **cannot be approved until BLM has complied with Section 7 of the Endangered Species Act.** BLM Manual 3809.22C.2 shall be followed.

4. Hazardous Materials. The plan of operation shall be evaluated for the presence of hazardous materials. A plan shall not be approved unless the requirements of BLM Manual 3809.22D are met.

5. Wetlands and Floodplains. All surface disturbing activities within floodplains or wetlands will be consistent with the provisions of Executive Order 11988 and Executive Order 11990, where applicable.

6. Cumulative Analysis. EAs should be prepared addressing cumulative impacts pursuant to Nevada guidelines and policy.

D. Decision Record/Finding of No Significant Impact.

The Decision Record (DR) and Finding of No Significant Impact (FONSI) can be combined in one document separate from the EA. The National Environmental Policy Act (NEPA) document, FONSI, should proceed the decision document, DR, and each should have separate signature/date time. The FONSI should briefly describe the relationship of this action to related plans and studies on adjacent lands, consistency with approved BLM land use and activity plans and conformance with any applicable approved local and state plans.

E. Third-Party Contracting Procedures.

A third-party contract is an option when BLM cannot prepare a required NEPA analysis due to time, budget, or other constraints, or when either BLM or the applicant prefers that a contractor be hired to prepare an EA/EIS. The applicant for the proposal awards the contract, through proper procedures, for the preparation of the NEPA document under BLM guidance. No direct BLM funding is involved in the contract award. The applicant pays the cost of the environmental contractor and the contractor prepares the environmental document to BLM standards and under BLM's direction.

F. Memorandum of Agreement (MOA).

The BLM develops a MOA between BLM, the applicant, other cooperating agencies, if any, and when desirable, the environmental contractor. The MOA establishes roles and responsibilities, and if appropriate, would address the cost reimbursement aspects of the project. The MOA provides for the BLM to work directly with the contractor on NEPA matters and provide guidance and direction in the preparation of the NEPA document.

For further discussion on third-party contracting and the associated MOA, see Appendix 7 of the National Environmental Policy Act Handbook (H-1790-1). As a reference guide, see the memorandum of agreement prepared for a project located in the Tonopah Resource Area (Appendix 9).

Coordination of the subject EA with state government is previously discussed in Chapter IV, Section V.

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CHAPTER VI - COMPLIANCE

I. Introduction.

Field inspections are conducted to ensure that operators comply with the Bureau's 43 CFR 3809 regulations. These regulations detail filing, operating, and reclamation requirements for operators/claimants conducting mining activities on the appropriate federal lands. Most cases of noncompliance result from operators being unaware of the regulations; this is particularly true with small operations. The district offices will make every attempt to inform any person expressing interest in performing mining related activity on federal lands of the 43 CFR 3809 requirements.

II. Implementation.

Implementation of the compliance program is the responsibility of the Authorized Officer (AO). It is the AO's responsibility to ensure that whatever resource specialists may be needed, because of special resource values on the project, are included on compliance checks. The implementation of any compliance program requires good coordination with state and other federal agencies and a large emphasis on documentation. A seemingly routine case can suddenly escalate to a judicial matter, and without proper documentation from the beginning, it can result in needless judgement against the Bureau.

A. Compliance Inspection Frequency.

The frequency of compliance checks is dependent on the level and types of operations, and on the sensitivity of other resource values. The AO is responsible for ensuring that an adequate number of compliance checks are completed. It is policy that at least an annual surface inspection will be completed for each notice or plan of operation. A good guideline is to complete at least three compliance checks per operation at these stages:

1. Pre-operation. Inspect the project area with the operator. This is helpful in avoiding compliance problems that may later develop if both parties can walk over the project area and discuss impacts, alternatives, and mitigating measures.

2. Operation. Check for compliance at least once during operations.

3. Post-Reclamation. A final post reclamation inspection will be completed before the case is closed.

Districts may invite state agencies for participation in inspections in order to coordinate compliance requirements of both agencies.

B. Compliance Inspection Priorities. The following are Nevada's general inspection priorities:

1. All 43 CFR 3802 cases (Wilderness Study Areas).

2. All operations utilizing cyanide or other hazardous materials.

3. All current operations conducting development or production activities.

4. All other operations actively conducting operations.

5. All other plans and notices in which the case files remain open. Case files will be reviewed, properly documented and closed, if appropriate. Follow up actions will be completed as appropriate.

All field inspections will be documented with an inspection report for the case file. The Nevada format for inspection reports is shown in Illustration 4. The objectives of inspections are to:

1. Determine compliance with the 3809 regulations.

2. Ensure reclamation of all disturbed areas, including those disturbed by casual use.

3. Document effective mining and reclamation practices used that meet regulation requirements.

4. In the event of observed noncompliance, take action pursuant to BLM Manual 3809.32.

C. Determination of Noncompliance.

The effectiveness of field resolution in noncompliance situations cannot be over emphasized. Operators are generally more receptive to personal contact than to receiving certified notification, by mail, in a form that resembles a citation. When field resolution fails, a Notice of Noncompliance (NON) may be issued. Some conditions under which it may be appropriate to issue a NON are:

1. Failure of operators/claimants to file a notice or plan even after having been contacted by the appropriate BLM officials. If the NON is ignored, the operator should be enjoined in a proper court. Areas disturbed must be reclaimed. Any operator who refuses to file a notice or plan until served a NON, has established a record of noncompliance.

2. Failure of operators/claimants to comply with the provisions of a notice or plan and causing unnecessary and undue degradation. If the NON is ignored, the operator should be enjoined in a proper court and required to reclaim any disturbance. An operator who refuses to take steps required by a NON has established a record of noncompliance.

3. Any unnecessary and undue degradation, whether at the casual use, notice or plan level.

4. Failure to perform the required reclamation measures within the agreed-upon time frames, or within a reasonable time after operations have ceased.

5. Repeated noncompliance, even though the operator may correct each incident after an oral warning, should be served a written NON. This could lead to the establishment of a record of noncompliance, which would serve as a tool in dealing with problem operators, particularly for notice level activity.

D. Contents of a Notice of Noncompliance.

A NON is a formal decision by the AO given to the operator and/or mining claimant which states:

1. Specific violations of the regulations.

2. Corrective actions that must be taken and the time frame, not to exceed 30 days, within which corrective action shall be started, including a schedule for completion of corrective actions.

3. That failure of an operator to comply with the requirements and time frames of a NON will constitute the establishment of a record of noncompliance. This will require the submission of a plan of operations for activity that could normally be conducted under a notice, and/or bonding for all subsequent operations.

4. That the operation will be monitored to document corrective actions taken by the operator.

5. That the AO is to be notified when requirements of the NON have been met.

6. That the decision is appealable to the State Director under 43 CFR 3809.4. The decision letter will include an outline of appeal procedures and the required wording shown in BLM Manual 3809.4.

E. Serving a Notice of Noncompliance and Monitoring Noncompliance Operations.

If the determination is made that a NON is to be served upon an operator and/or claimant, the following steps should be followed:

1. The NON must be served on the operator and/or claimant in person or sent certified mail, return receipt requested, to the operator's address of record. A copy will be sent to the State Director (NV-920), and where applicable, to the operator's surety bond company and to the mining claimant(s), if other than the operator. Upon serving the NON, the AO will:

a. initiate monitoring of the operations consistent with the schedule and actions specified in the NON, and,

b. document in detail, with photographs and written reports, the corrective actions made by the operator, and

c. (if corrective actions are completed satisfactorily within the specified time frame), notify the operator, the claimant, State Director (NV-920), and if applicable, the surety company, that the operator has complied, or

d. (if corrective actions are not taken by the operator, or are unsatisfactory), prepare a detailed report, and forward the case file to the State Director (NV-920) for appropriate action.

F. State Office Review.

Once a case file is sent to the State Director (Chapter VI.II.E.1.d) and after a review by the Nevada State Office staff, to be completed within 15 calendar days, one or more of the following actions may be taken.

1. Return the case to the district office for an appropriate action.

2. Send a letter to the operator advising him that he has established a record of noncompliance and explain his new requirements.

3. Cite the operator for criminal violations as discussed in Chapter VI(II)(G).

4. Obtain a court injunction to halt operations.

G. Use of Criminal Penalties.

The use of citation authority requires the equitable treatment of all operators who violate the provisions of the regulations. If one operator is to be cited for violation of the regulations, other operators who have committed similar violations should likewise be cited. Criminal penalties should be used in the implementation of the surface management regulations only as a last resort, and with great discretion.

The following points should be kept in mind when considering the possible use of criminal penalties:

1. There are no criminal penalties directly contained in the 3809 regulations.

2. An operator who violates the 3809 regulations may have acted criminally under other departmental regulations; in particular Section 303(g) of FLPMA, 43 CFR 8340 and 43 CFR 8360.

3. Criminal penalties should be used only when the actions are clearly unnecessary and undue, and involve the loss of important resource values.

4. Operators who have obtained the proper authorization, but engage in unauthorized actions violating 43 CFR 8340 or 8360 shall be cited for a misdemeanor only when the violation results in unnecessary and undue degradation. Also, the AO must have advised the operator, in writing, during plan approval or during notice review, not to take those violating actions.

5. Only those employees who have been delegated law enforcement authority by the Director are authorized to issue citations. If it appears desirable to pursue criminal penalties, contact your law enforcement specialists.

H. Bonding.

Special Note: This section is not to be implemented until a formal Instructional Memorandum from the State Director on the new policy. Until that time, no bond, except under noncompliance policy, will be issued without State Director concurrence. Interim bond requests for reasons discussed at the state management team meeting, can be submitted to the State Director (NV-920).

1. Bonding will not be required of an operator working under casual use or a notice.

2. Bonding of operators conducting **mining operations** under an approved plan will be at the discretion of the Authorized Officer (AO). Discretionary bonding of operators conducting **exploration operations** is not allowed unless there is a record of noncompliance. For purposes of this program, a mining operation is defined as any operation involving any combination of underground excavation or removal of overburden from a mineral deposit by strip, open pit, dredge, placer, or quarry methods that lead to the direct removal of overburden by trenching or testpitting to expose possible indications of mineralization will be included in this category. Recovery of mineral values by surface or in-situ leaching shall be considered a mining operation. All activities not expressly described as mining operations are considered exploration operations for the purposes of determining if a bond may be appropriate.

3. Bonds may be required of operators whose operations are located in one of the special category areas listed in the 43 CFR 3809.1-4(b).

4. Any operator who has established a record of noncompliance under a notice or a plan, will be subject to bonding. Any unnecessary and undue degradation must be reclaimed before the mandatory bonding requirement is lifted.

5. The amount of the bond will be that which the AO determines is necessary for the government to perform any reclamation work needed. All costs, including office contracting time, equipment mobilization and demobilization, will be included in the bond amount.

6. Modification of a plan or partial reclamation on a plan may cause the AO to review the initial bond and adjust the bond amount accordingly.

7. The claimant and the operator are jointly and severely liable for compliance with the 3809 regulations, including reclamation.

8. Operations conducted under a state or county reclamation bond fulfill the Bureau's bonding requirements for 3809 activities for tasks already covered by the state bond.

I. Injunctive Relief.

1. There are three levels of injunctive relief. Briefly, these are the Temporary Restraining Order (TRO), the preliminary injunction, and the permanent injunction.

a. The TRO is used as an emergency measure that is resorted to only when unnecessary and undue degradation is occurring or imminent, and no other action is available to prevent the loss of important resource values. The TRO is temporary, generally not lasting for longer than ten days, during which a preliminary and permanent injunction should be pursued. The criterion that must be met to obtain a TRO is to clearly show, by affidavit, that immediate and irreparable injury, loss, or damage will result to the applicant (BLM).

b. The TRO is often skipped in favor of obtaining the longer lasting preliminary injunction. If the TRO is skipped, the operator is served the notice of application for preliminary injunction. The criteria for issuance of a preliminary injunction require the applicant (BLM) to show the likelihood of success based on the merits of the case, the balance of irreparable harm tips in favor of granting an injunction, and that public interests favor the granting of injunctive relief.

c. The TRO and preliminary injunction serve to halt illegal actions and are good enforcement tools. The permanent injunction extends the temporary relief and is granted as part of the final court order ruling in the government's favor. The operator must undertake certain actions, such as reclamation, before operations can resume on the affected claims or lands.

2. Meeting the criteria for any level of injunctive relief is not difficult in a situation where the operator is working illegally. There are cases holding that violation of the law is sufficient basis for an injunction; and environmental damage is certainly the type of irreparable harm injunctions are intended to prevent. However, injunctive relief is an emergency measure to be used only when unnecessary and undue degradation is occurring, and no other course of action is available to prevent the loss of important resource values. Injunctive relief is not to be used as a routine answer to noncompliance problems.

3. The general procedures for requesting injunctive relief after a record of noncompliance has been established are:

a. The AO recognizes that an emergency situation involving undue or unnecessary degradation is occurring such that:

(1) Conventional solutions will not work, or have not worked previously.

(2) The only alternative remaining is court intervention to force the operator to cease operations.

b. The AO evaluates the situation to determine if injunctive relief is warranted. If needed, the AO notifies the State Director, Regional Solicitor's Officer, and DSD-Minerals, that a situation exists that may require injunctive relief.

c. If the AO determines that injunctive relief is required, the following must occur as rapidly as possible:

(1) The case file and all supporting documentation is forwarded to the State Office (NV-920), by express mail if necessary.

(2) The State Director, DSD-Minerals, and representative of Regional Solicitor's Office, are briefed by the AO.

(3) The Solicitor's Office is kept advised of the progress of the situation.

(4) The State Director decides whether to request injunctive relief and what type(s).

d. If the State Director decides to request injunctive relief, the following should occur as rapidly as possible:

(1) The State Office (NV-920) forwards the case file and all documentation to the Regional Solicitor's Office.

(2) The DSD-Minerals acts as liaison between the Solicitor's Office and BLM to request additional information, ensure availability of personnel for testimony, etc.

e. If the injunctive relief is issued, the following will be required:

(1) The AO will serve an injunction upon the operator and notify the claimant if he is not the operator.

(2) The AO will monitor the operation for compliance with the injunction and report to the State Director (NV-920) if there is continued noncompliance.

(3) The DSD-Minerals will act as liaison with the Solicitor's Office and the district or area office to expedite requests for additional information and for court proceedings relating to the injunctive relief.

J. Bankruptcy Proceedings.

The following procedures are outlined to ensure that the Bureau's interests in bankruptcy proceedings of operators will be known to the U.S. Bankruptcy Court. These procedures support BLM Manual Section 1375.7.

1. If field personnel suspect that a mining claim operator may have filed for bankruptcy, and has abandoned a site without performing required reclamation, contact the Verification Desk at the U.S. Bankruptcy Court. For Nevada, contact the U.S. Bankruptcy Court, Reno or Las Vegas. If a mining claim operator has filed for bankruptcy, you will receive a case number for future reference.

If no filing for bankruptcy has been made, every effort should be made at this point to require the claimant (if the claimant is not the operator) to reclaim the site. Future contacts with the Verification Desk are advisable to determine if the operator has filed for bankruptcy at a later date.

2. If you receive a case number from the court, forward the information needed to complete a Proof of Claim form to the Deputy State Director, Mineral Resources (NV-920). The total amount claimed must equal your documented estimate of costs of site reclamation. Include any administrative costs in your estimate. Site reclamation costs must be limited to those necessary to meet the regulatory standards that the operator was required to comply with in 43 CFR 3809.

K. Appeals.

Any decision, whether formal or informal, of the AO may be appealed. Appeal procedures for the 43 CFR 3809 regulations are described in BLM Manual 3809.4 and Illustration 6. A decision means any letter, written directive, permit or requirement placed upon the operator by the AO.

CHAPTER VI - COMPLIANCE

All appeals must be filed and processed in strict compliance with the regulations. Note that while the case is on appeal to Interior Board of Land Appeals (IBLA) the BLM cannot process the notice/plan. In the interim, decisions which have been issued remain in effect pending the outcome of appeal.

1. Types.

a. Operator Appeals. An operator adversely affected by a decision of the AO made pursuant to the provisions of 43 CFR 3809 has a right of appeal to the State Director, and thereafter to the Board of Land Appeals, Office of Hearings and Appeals, pursuant to 43 CFR, Part 4, if the State Director's decision is adverse to the appellant. Operator appeals are handled out of the State Office (NV-920).

b. Third Party Appeals. Any party, other than the operator, aggrieved by a decision of the AO must use the third party appeals procedure in 43 CFR, Part 4. The filing of such an appeal shall not stop the AO's decision from being effective. Third party appeals are handled by the district office. The AO is responsible for appeal acknowledgement, case transmittal to IBLA, responding to the Statement of Reasons, keeping the State Office (NV-920) informed, and coordinating with the Regional Solicitor's Office.

2. Documentation.

The appeal and all supporting information supplied by the appellant, the 3809 case file, and any supporting analysis or pertinent information developed by the AO shall be forwarded to the State Director (NV-920) or the Board of Land Appeals, as appropriate, within five working days of receipt from the appellant. The need for complete documentation can not be overemphasized.

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CHAPTER VII - RECLAMATION

I. Introduction.

With the increase in mineral activity, Bureau personnel in Nevada need reclamation information and guidance that is readily available and applicable to Nevada situations and conditions. The overall reclamation goals in Nevada are to shape, stabilize, revegetate, or otherwise treat disturbed areas in order to provide a safe, stable condition that would provide a productive post-operational use of the land.

These guidelines are for the purpose of providing consistent reclamation guidelines and recommendations for all surface disturbing activities conducted under the authority of 43 CFR 3809. These activities, as defined in the 3809 regulations, are casual use, notice, and plan of operations.

The regulations (3809.1-3(d)) state that the operator shall perform reclamation at the earliest feasible time.

For casual use activities the disturbance is minimal and usually does not require extensive reclamation. However, in some instances casual use activities may cause extensive disturbance if carried out over long periods of time. The 3809 regulations require the BLM to monitor casual use activities to prevent undue and unnecessary degradation. If extensive disturbance should occur, reclamation may be required.

For notices the operator should perform stabilization measures if the operation becomes idle with no indication that operations will restart. If more than one field season elapses without resumption of operations the operator may be required to perform complete reclamation.

For a plan of operations the reclamation time frames should be identified in the final approved reclamation plan. The intent is to provide the user with:

1. A Logical Sequence of Events for Managing the Reclamation Process.

2. A Summary of Key Reclamation Principles.

3. A Ready Reference and Checklist of Technical Information to be Applied On-The-Ground.

II. Developing the Reclamation Plan.

The reclamation plan guides both the operator and the administrator toward a future expected condition of the disturbed area. It is best, if possible, to make some determinations of what is expected before any disturbance takes place. This requires up-front coordination with the operator, and as complete and optimistic as plan of operations as possible. Experience has shown that long term plans of operations can change drastically as new exploration operations are conducted.

The reclamation plan, which is a required part of the plan of operations shall be incorporated in the plan or submitted as a separate document and is approved by the surface management agency as part of the operating plan. The reclamation plan should be developed by the operator with input from the Authorized Officer (AO) and should be dynamic to allow concurrent reclamation, yet flexible to allow adjustments brought about by changes in the operation.

The plan should describe in detail what is expected to happen to the disturbed site, both during and after extraction, to reduce impacts on other resources and return the land to a productive state consistent with the land use plan.

A. Reclamation and the Land Use Plan.

Reclamation plans should reflect the objectives of the land use plan and the requirement of the regulations to prevent unnecessary or undue degradation and provide for reasonable reclamation.

B. Reclamation in Environmental Documents.

Environmental documents are not required for casual use or notice level activities. However, these activities, as authorized by the 3809 regulations, require reclamation. The standards for reclamation are described in 3809.1-3(d).

The environmental assessment and Environmental Impact Statement (EIS) are National Environmental Policy Act (NEPA) documents. Their requirements are not legally binding upon an operator unless they are made part of an operating plan required by the Secretary's regulations.

Appropriate constraints and mitigating requirements identified in the Environmental Analysis (EA) should be incorporated in the operating plan and/or reclamation plan as stipulations.

C. Determining Reclamation Criteria.

Reclamation plans should contain site specific criteria that can be used as performance guidelines. An interdisciplinary approach should be used in establishing the criteria for proper reclamation. Reclamation criteria are guidelines set to describe the desired end product of reclamation. When the reclamation criteria are met the case can be closed.

The AO will develop reclamation criteria for each project in at least the following areas:

1. Final slope configuration of the disturbed area (topography).

2. Management of the topsoil and other growing medium.

3. Mass stability requirements.

4. Acceptable plant species for vegetation.

5. Reclamation requirements for seasonal closures, long-term shutdown (more than 1 year), and final reclamation.

6. Air, water, and visual guidelines.

7. Intervals for monitoring of the operating plan.

For environmental protection requirements related to locatable minerals, see 3809.2-2, Other Requirements for Environmental Protection, paragraphs (a) through (f).

D. Reclamation Plan Content.

The reclamation plan should contain measures which will be taken to reclaim the project area to the guidelines set forth in 3809.1-3(d). The plan should also contain any concurrent or interim reclamation measures which are planned to be accomplished during the activities.

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Concurrent reclamation is defined as reclamation that is completed to its final state during the life of the project rather than at its conclusion. Interim reclamation is defined as reclamation that is accomplished to stabilize areas that will be re-opened at a later time, or measures taken during temporary shut-down of the operations. Generally, active mine facilities and exploration areas cannot be reclaimed. However, at times and in some places, concurrent or interim reclamation can be done.

1. Objectives and considerations include the following:

a. Concurrent reclamation may be applied to a plan of operations when activities are expected to occur for more than one year.

b. Concurrent reclamation should proceed as soon as practicable during active mine and extensive exploration life.

c. Interim reclamation should be considered for areas in which mining activity has not occurred for over one year, but activity is expected to resume.

d. A concurrent or interim reclamation plan may be submitted each year as part of the plan of operations. This may be determined through consultation between the AO and the operator.

e. During periods of non-operation or partial mine closure, an interim reclamation plan should be submitted to assure stability and to minimize watershed concerns.

2. Reclamation plans should contain the following:

a. Final reclamation requirements consistent with the regulations, Bureau policy, and land use plan objectives.

b. Mitigating requirements from the NEPA document.

c. Mandatory information required by regulations.

d. Reclamation criteria shown in Section II, A.

e. A discussion of how each phase or milestone of the reclamation plan will happen, and a description of each phase or milestone. The description should include " where, how, when and any support or material needs."

f. Plan drawings or maps are helpful. The illustrations should include each phase of reclamation and how each is integrated into the process. Examples of this may include:

(1) Material storage and handling.

(2) Subsurface and surface preparation.

(3) Water management or hydrologic modifications.

(4) Revegetation techniques.

(5) Special efforts to maintain or restore visual quality.

(6) Special efforts to maintain or restore wildlife habitat.

III. Administration of the Reclamation Plan.

When approving and administering a reclamation plan, the AO should:

1. Review the plan for content.
2. Review the plan on the ground with the operator.
3. Recommend revisions if necessary as a result of on-site review.
4. Approve the plan within appropriate time frames.
5. Set schedule for inspection of operations and reclamation activities.
6. Document inspections and discuss needed changes with the operator.
7. Ensure interim reclamation is current.
8. Take appropriate action in the event of noncompliance.
9. Revise plan as needed.
10. Monitor completed projects as needed.

IV. Principles of Reclamation.

There are several steps to reclamation that should always be considered:

1. Ensure that reclamation objectives agree with the land use plan objectives.

2. Use an interdisciplinary approach to analyze the physical, chemical, and climatic site characteristics and make recommendations for reclamation plan. Consider test plots to determine the best local procedures and practices.

3. Conserve all topsoil and material that is suitable growing medium from areas to be disturbed. Reapply it during reclamation.

4. Conserve and protect quality and integrity of affected ground water aquifers and surface waters.

5. Reclaim disturbed areas as soon a possible to minimize exposed surface and soil loss during operations (concurrent/interim reclamation). Concurrent reclamation should be strongly encouraged in upfront coordination and other contact with operator.

6. Control toxic substances that may contaminate water, air, or prohibit plant growth.

7. Once activities are completed, shape the land so it is consistent with sound watershed principles and will accommodate the desired long-term land use.

8. When the final land form is achieved, immediately stabilize the surface to hold the soil in place and guard against soil loss from major storms or spring runoff.

9. Select equipment that is well suited to the site and prepare a good seed bed before attempting revegetation.

10. Plant selected species that will hold the soil in place, provide vegetative diversity and, through succession, contribute to a stable ecosystem.

11. Protect young plants until fully established.

V. Standard Reclamation Practices.

This chapter discusses standard practices for reclamation of disturbed areas as discussed in 3809.1-3(d)(4).

A. Topsoil Management.

The amount and quality of replaced soils has a strong effect on the future site productivity of reclaimed lands. Early in reclamation planning, consider these several questions:

1. How much topsoil should be saved?

2. Where will salvaged soil be stored, and how will it be stored to ensure it will not be washed or blown away and reduce water and air quality?

3. How long will soil be stored?

4. Is direct replacement feasible?

5. How will soil be respread on the disturbed areas?

6. What thickness of respread soil is needed?

7. Is there enough soil to give the desired thickness?

8. Are there alternatives to respreading topsoil?

When soils are very clayey or excessively rocky, it may not be in the best interest to salvage them. Consider the nature of the spoils or waste rock that is being reclaimed. Is the material harmful to plant growth? Is it composed almost entirely of rock with too few fines, or is it composed of too many fines (clay)? Is it too alkaline or too acid? Is the salinity too high, or does the waste contain toxic substances that inhibit plant growth?

The answers to the above questions will dictate to what extent topsoil is needed. The thickness of topsoil can vary depending on how amenable the waste or disturbed areas are to plant growth. Generally, six inches of good to fair topsoil is adequate to establish a desirable stand of vegetation. However, if the waste or spoils are deleterious to plant growth and amendments such as fertilizers or mulch cannot mitigate this, then consider the rooting depth of your seeded species.

This depth will then be the minimum needed to cover the disturbed areas with either topsoil or overburden conducive to plant growth.

Remember that some spoils alone with additions of mulch and fertilizer can be made to support good stands of vegetation that can stabilize the area.

When stockpiling topsoil pay careful attention to the location. Is it safe from future mining and is it located within easy hauling distance and gradient to the area to be covered?

B. Sediment and Overland Water Flow Control Measures.

Sediment control can be an important feature of a mine operation because of the high potential for erosion and sediment production. Before a mine plan of operations is approved, decide if sediments will be a problem and then address the best reasonable means of controlling them. In Nevada, sediment can be generated by both wind and water.

1. Disturbed areas are susceptible to wind erosion when the particle size is around 0.1 mm, wind velocity generally exceeds 12 mph, and the spoil surface is at least periodically dry.

Mill tailings are a good candidate for wind erosion because of the fine and unconsolidated nature of the particles, its smooth and uninterrupted plane, and a surface which is periodically dry.

To reduce wind erosion, cover susceptible material with crimped mulch or matting and/or coarse waste rock and then topsoil, if available. A plant cover should be established if mulch, matting, or topsoil is used so long term surface coverage is provided. Barriers, such as snow fenses, oriented perpendicular to the prevailing wind may also be used to help reduce erosion until a good plant cover is established. If a plant cover cannot be established, consider capping the area with coarse rocky waste material generated by mining operations.

2. Two general strategies exist for controlling water erosion and sedimentation. On-site control aims at reducing erosion, while off-site control aims at removing sediment after it has moved off the area.

Erosion will increase with increasing storm intensity and duration, slope length, slope angle, spoil impermeability, and bare ground, or lack of plant cover. Ideally natural means of erosion control are preferred. If erosion rates are relatively slow and time permits, vegetative rehabilitation should be used.

a. Spring melt off and overland water flow will generally be more intense on north and east facing slopes. However, snow melt may cause greater runoff from south and west facing slopes if snow accumulations are sufficient. Snow melts at a faster rate on south and west facing slopes.

b. Overland flow can be impeded and infiltration increased by disking, furrowing, terracing, and/or deep ripping on the contour. Remember that equipment usually cannot traverse the contour of a slope when it exceeds 2.5:1 or 40%.

c. Terracing can also be used to break up the overall slope length. Terrace width and spacing should be based on storm intensity and spoil permeability. In wet areas or where the spoil is impermeable, terraces need to be wider and spaced closer together.

d. Berms constructed of windrowed rocks or brush are a means of breaking-up and slowing overland flow.

e. In particularly critical areas lined ditches can be used to intercept overland flow and channel it to more stable locations

f. Contouring can be used to reduce the slope angle and make the area more accessible for revegetation equipment. Sediment traps or drop structures can be set-up within drainages to capture sediment after the particles have left the disturbed area. Structures should only be used for short term control. Structures become ineffective of not properly maintained, and maintenance costs can be very high for long-term use. Structures should be placed within intermittent drainages, if possible. Sediment traps or settling ponds function by reducing water velocity, and suspended sediments will settle out. Generally, the larger the settling pond, the more sediments will be trapped and the finer the size of the particles which will fall out. A series of traps down a drainage is usually more effective than a single large pond. Sediments should be removed when the trap is one-half to two-thirds full. Porous and non-porous structures are the two types that can be used.

Porous structures are of a simpler design and easier to build. Their efficiency in trapping sediments is generally less than that of nonporous structures. Loose rock can be used and reinforced by wire mesh, steel posts or other materials. Rock should be sized to withstand the anticipated peak flows of the area. Rock can be sized smaller within the core of the dam to filter out smaller sediments. Porous structures will often promote vegetative growth behind the dam. If the vegetation is protected, the vigorously growing plants will help trap more and finer sediments and provide for long term stability of the structure.

Nonporous structures utilize spillways or perforated risers as water outlets from the sediment traps. The stilling effect of the pond is greater than with porous structures. This may be a significant factor in using them where deleterious or harmful sediments are involved. Nonporous structures require stronger anchoring because of the water pressure behind the dam. Nonporous structures have greater liability because dam failure can be so much more catastrophic. The dam should be removed after it has served its function.

C. Shaping and Grading.

Shaping and grading a site is an important reclamation consideration. The final shape or landform should be compatible with the surrounding landforms, if possible. Not only should the site be stable but it should also be compatible with the post mining land use. The mine operator, and if possible, the equipment operator should be included in discussion on reshaping. Consider the following:

1. Establish a record of conditions existing before disturbance. Use photo points, contour maps, etc.

2. Decide what final landform is desirable and practicable prior to disturbance.

3. Save topsoil to respread after shaping.

4. Determine what landform is most stable; evaluate angle of repose v 3:1 slopes, etc. Flatter is not always better; length of slope affects water velocity, erosion, and infiltration.

5. Put the land back to its natural contour where possible and practicable.

6. Do not over steepen slopes in shaping. This may cause slope failure or slide.

7. Do not create ponds or depressions that will accumulate surface water unless they are planned.

8. Leave graded surfaces somewhat roughened to trap seed, slow runoff, and provide favorable micro-climates.

9. Provide for internal and external drainage of treated areas.

10. Consider long-term mass stability requirements. Where large tailings sites or waste embankments are involved, get review and input from a geotechnical engineer.

11. Be aware that large tractor-dozers can efficiently push fill material uphill on a 40-percent slope; beyond 40 percent their efficiency is very limited.

D. Seed Bed Preparation.

1. The land should be recontoured to be as close to the original contour as possible and natural drainage should not be altered, except where necessary to protect unstable soils or tailings or toxic materials areas from water.

2. Areas that have been highly compacted should be ripped.

a. Rip the mantle when it is relatively dry to permit shattering beneath the surface. Moisture content should not exceed field capacity.

b. Ripping should be 2 to 3 feet deep on 2- to 3-foot centers. A "rule of thumb" is the distance between rippers should be equal to the depth ripped.

c. Cease ripping if it brings a "lot of rock" to the surface (+ or -35% coarse fragments), unless ripping is for the purpose of discouraging travel.

d. After ripping a site, disk or harrow to smooth the surface.

e. Where possible, ripping should be along the contour of the slope.

E. Seeding.

The purpose for seeding is to establish ground cover and protect the soil from erosion and to prevent invasion of undesirable species. Grass species are best suited to this because they have a fibrous root system. Sod forming species are best at reducing erosion.

Seeding hardrock mining operations is a challenging enterprise. Steep slopes and rocky soils will typically prohibit the use of most mechanical seeding equipment. Where equipment can be used, seed drills will usually ensure good seeding success. Special note should be given to the depth of planting. Many exotic plants such as crested wheatgrass establish well when seeded by rangeland plows; however, many natives would be seeded too deeply.

Broadcast seeding is normally required on at least some portion of the disturbed area. The seed should be covered with soil. Some suggested methods are a weighted chain link fence, light chain, culti-peater, or harrow. Broadcast seeding works best when done just after completion of the final earthwork, when the surface is soft and friable.

In Nevada, the most favorable time of year to seed is in the fall or early winter. Seed will lay dormant until the following spring when temperatures are just right and the soil moisture content is at its optimum.

The following are some general guidelines for seeding:

1. Select species from a similar climatic zone and soil type.

2. Seeding mixtures of species is better than seeding a single species.

3. A minimum of 8 inches of annual precipitation is usually required for a successful seeding. Below this level, care should be taken to select very drought tolerant species and to work the surface to capture and concentrate moisture. A minimum of 2.5 inches of available water holding capacity is usually required for a successful seeding. In drier areas, this increases to 3.5 inches.

4. Do not over-seed. Too many seedlings will compete for available moisture.

5. Seeded areas should be protected from grazing for a minimum of two years.

6. Four sources for seeding suitability and rehabilitation potential are listed below:

a. Criteria for Rating Soils According to Their Relative Suitability for Rangeland Seedings in Nevada.

b. National Soils Handbook Part 603.03-3(d) Table 603-24 (TOPSOIL).

c. National Soils Handbook Part 603.03-3(e) Table 603-25 (Soil Reconstruction material for drastically disturbed areas). See Conservation Plantings for Rangeland, Windbreaks, Wildlife, Soil Conservation Cover, University of Nevada, Reno and Soil Conservation Service. Also see Appendix 10.

d. Conservation Plantings, University of Nevada (UNR), Reno, and the U.S. Department of Agriculture, Soil Conservation Service.

F. Species Selection.

1. Recommendations for species selection can be obtained from the BLM, the University of Nevada, Reno Extension Service, the Soil Conservation Service (SCS) and the Nevada Division of Forestry (NDF).

2. Generally speaking, cool season plants are best suited to northern Nevada while warm season species are better suited to southern Nevada. Elevation and slope aspect are also important factors that should be considered when selecting plant species.

3. Seed should be purchased from a reputable dealer. The Soil Conservation Service (SCS) Plant Material Centers has information about seed and seed dealers. The Centers are an excellent source of information.

4. All seed purchased should have species name, percent germination, percent pure live seed, percent weed seed and other contaminates, collection location (especially important for native species) and date tests were conducted specified on bag. Nevada Revised Statutes, Sections 555.130 through 555.215, require that seed planted within the State of Nevada contain no injurious or noxious weeds. The Nevada State Department of Agriculture maintains a list of all state declared noxious or injurious weeds (see Appendix 11).

5. Shrubs may often be planted in crucial big game areas to mitigate habitat loss. Shrubs can be established from containerized stock or by selected excavations of shrubs just off site of the project area. A few well placed shrubs within the reclaimed area will provide a seed source for future shrub establishment. The following should be considered when planting shrubs:

a. Adapted species should be selected for use with parent material from a similar climate zone.

b. Care and hardening of the plants prior to planting. This can be done by the supplier.

c. March is a preferred time to plant seedlings. Fall plantings often result in winter kill since plants will not likely be established prior to prolonged sub-freezing weather.

d. Site conditions and preparation at the time of planting.

e. Methods of planting, spacing, fertilizing, watering, etc.

f. Care and assessment following planting.

G. Mulching.

Mulches are often used in reclamation to protect and stabilize soils until permanent plant cover is established. In addition to preventing erosion, a good mulch cover protects seeded areas from the severe effects of heat, cold and drought. The following are suggestions for using mulches:

1. Commonly used mulches include; straw, excelsior, hay synthetic mulches, biodegradable fibers, wood chips and wood fiber, animal manure and jute.

2. Dark-colored mulch will raise spring soil surface temperatures.

3. Light-colored mulches will reduce summer soil surface temperatures.

4. Mulching will reduce frost heaving of new seedlings.

5. Mulch reduces rain splash, surface wind, particle movement and other erosional effects.

6. Mulch should be applied to a roughened surface. Do not grade smooth. Apply asphalt or other suitable tackifiers or crimp mulch into the surface to keep it in place.

7. Common hay and straw mulches for seeding cover and erosion control should be applied at the rate of 2,000 to 3,000 pounds per acre. This amount will provide a 2- to 3-inch deep ground cover.

8. Mulch can be applied by hand on 3:1 or less sloping sites up to 1 or 2 acres in size. Larger, steeper sites will require a power blower or mulcher.

9. Fiber mulches can be applied effectively in a slurry of water, seed, and fertilizer with a hydromulcher. Application rate should be at least 2,000 lbs/acre.

10. Mulching that is crimped into the soil on dry sites may wick moisture out of the soil in some conditions.

H. Fertilizers.

Soils and waste rock or spoils should be tested by a qualified laboratory for deficiencies. Disturbed lands typically require some additions of phosphorous or nitrogen. Waste or spoils may be deficient in one or more micronutrients as well. Soil amendments can also be used to balance the pH. Use nitrogen fertilizers that are slow release, otherwise they will wash away too easily.

VI. Procedures for Unique Reclamation Situations.

This chapter discusses procedures for dealing with unique reclamation situations.

A. Acid Mine Drainage.

Acid soils, acid waste materials, and acid drainage waters are problems on many mine operations. Most acid mine problems on mine locations have the same origin--oxidation of sulphide minerals. In the West, these sulphide minerals are often associated with metallic ores. Most metallic ions are increasingly soluble with decreasing pH. This can become a serious problem, and it can usually be assumed that an acid drainage problem is also a heavy metals problem. Acid drainage in the western U.S. may be a problem in hardrock mines.

In Nevada, the Department of Conservation and Natural Resources, Division of Environmental Protection, has enforcement authority for setting guidelines for air, soil, and water quality, and solid waste disposal.

Acid sites may be identified by the following:

1. It is relatively easy to identify an existing acid drainage problem. A fail-safe indicator is the presence of ferric hydroxide precipitate on the bottom of the streambed. Typically, this precipitate has an orange color, but the color may vary from the yellow-reds through the purples. The precipitate is known as "yellow-boy" in the mining industry. Also, pH is easy to determine in the field.

2. Acid conditions in either the soil/spoils or in surface waters usually indicate acid drainage.

3. Acidic stream water may be crystal clear, but do not be fooled lack of coloration.

4. Acidic soil/spoils will be bare of vegetation (except for an occasional hardy individual plant) and free of insects and small mammals.

5. You can often smell the sulphurous compounds in spoils.

6. The presence of any metallic-pyrites is a good indicator that acid conditions may develop.

B. Heavy Metals.

Heavy metal contamination of soils, spoils, surface waters, and ground water is invariably associated with acid mine drainage. An acid problem indicates there is probably a heavy metals problem.

In any specific mining situation, not all metals will be found at dangerous levels. One or more metals will usually be present in concentrations high enough to cause concern in any acid situation.

Several concerns need to be recognized. First, the concern for danger to human life. The cations of greatest concern are arsenic, cadmium, mercury, lead, nickle, manganese, and molybdenum. The presence of copper and other heavy metals is the primary concern for fishery and associated aquatic life. Isolation of the stream is the preferred method of protection. Iron, aluminum, and zinc may be present in the soil/spoil in sufficient concentrations to be toxic to the vegetal cover.

There are no guidelines for acceptable limits of heavy metals. Every situation is different and must be checked individually. It is much more difficult to control the problem than it is to avoid it; however, on existing mines, control may be the only solution.

If contamination above background levels occurs, notify the State of Nevada, Department of Conservation and Natural Resources. Under the Memorandum of Understanding (MOU) between the BLM and the State of Nevada, the state has enforcement authority in such situations.

C. Alkaline and Saline Sites.

Alkaline and saline soils most often occur in arid to semi-arid regions where annual precipitation is less than 15 inches and the physiographic position allows salt accumulation. In these areas evaporation exceeds precipitation, resulting in a high concentration of alkalinity and/or salinity. These areas may be identified by the following:

1. Alkaline or saline soils usually support poor vegetative cover.

2. The soil surface usually contains large cracks.

3. The soil may range from white to dark color with noticeable accumulation of salts.

If contamination above background levels occurs, notify the State of Nevada, Department of Conservation and Natural Resources. Under the MOU between the BLM and the State of Nevada, the state has enforcement authority in such situations.

D. Trenches.

Topsoil should be stockpiled separately from the subsoil and weathered bedrock. Use of a backhoe rather than dozer is cost effective and will reduce surface disturbance. If the operator desires to leave trenches open to preserve evidence of mineralization, the non-mineralized areas and stockpiled material should be reclaimed and the open trench sloped so as not to create a safety hazard. If the trench is no longer needed, it should be back filled.

3. Ensure removal or neutralization of toxic materials or hazardous structures at the completion of the activity.

The State of Nevada has enforcement authority under the MOU between Nevada BLM and the State of Nevada.

E. Drill Holes.

All holes drilled for the purpose of locatable mineral exploration shall be plugged, sealed or capped in the manner described in the Nevada State Regulations for Drilling Water Wells. If water is encountered the preferred method is to fill the hole to the surface with bentonite pellets. If free-flowing artesian water is encountered, the hole should be plugged with neat cement to the surface.

If free flowing artesian water is not encountered, plugging, sealing, or capping will not be required if development of a mine or a mine expansion occurs within one year of the drilling activity; however, the hole must be securely covered in a manner which will prevent injury to persons or animals.

If drill pad construction is required, the pad should be of minimum size required to accommodate the drill rig and associated equipment. Topsoil should be saved and stockpiled for respreading on the pad once the hole has been properly abandoned. Reseeding of the drill pad may be required. If the drill site is on an exploration access, the site shall be restored along with reclamation of the access.

Once the holes are abandoned, inspections of the sites should be conducted to assure abandonment procedures are met.

If state regulations do not apply (dry holes), all holes should be plugged, sealed or capped in a manner worked out with the operator.

F. Facility Removal.

In each mining or drilling operation, some significant encumbrances on the land are physical facilities such as office buildings, storage sheds, mills, water tanks, etc. Provisions should be included in each reclamation plan to deal with removal of unnecessary facilities. Consider the following when dealing with reclamation of operator facilities:

1. Describe facilities that will be removed or retained during period of interim shutdown.

2. Identify facilities that have potential to create environmental liability or problems and ensure they meet state and federal environmental protection requirements. These may include; fuel tanks, chemical, drilling additive and explosive storage areas, shop and service areas, openings to underground workings, unused machinery, septic systems, cement pads and building foundations, and transformers which may contain PCBs.

G. Highwalls.

Ultimate disposition of highwalls should be negotiated during the review of the plan of operations. Highwalls can be part of any mining operation in any terrain.

1. Hazards: The hazards associated with highwalls are the occasional rock fall into the bottom of the pit or perhaps a massive rotational slide of the entire wall. The use of a geotechnical engineer if available, or the use of stability analysis calculations will help in alleviating this type of hazard. Most mining companies should have someone with geotechnical expertise, if not available internally.

2. Disposition:

a. The normal procedure is to leave highwalls in an unreclaimed state, or if an opportunity arises due to sequential mining of more than one pit, a pit can be back filled and highwall buried.

b. Instead of leaving a slick highwall, leave it benched to provide a stable condition. This creates a niche for vegetation and provides nesting areas for birds. Also, benching near the top and rounding the edge back will provide a safety feature by reducing the distance of and the chance of falling.

c. Safety abatement for final disposition of open pits.

H. Land Form and Visual Changes.

Mineral development can vary from nearly imperceptible disturbance of the landscape to removal of mountain ridges and creation of hills and valleys.

CHAPTER VII - RECLAMATION

The very nature of the minerals program creates changes in land form and visual characteristics that must be stabilized through the reclamation program.

Stabilization may require re-contouring and shaping at which time visual considerations can be incorporated to the extent that costs are consistent with stabilization objectives.

Selection of plant cover may be restricted to native species. However, stabilization and maintenance of vegetative composition similar to that of the surrounding countryside should not be in conflict with the mining regulations.

For more detailed information regarding visual resources, consult Section 8400 of the BLM Manual, and associated BLM Handbooks.

I. Open Pit Mines.

1. Stockpile or move growing medium material where it can be used to cover waste dumps, leach pads or other disturbed areas during concurrent or interim reclamation or at abandonment.

2. Consider back filling pits with mine waste where practical and without moving the material twice.

3. Consider placement of waste, allowing for 30-percent swell factor, with the following factors in mind:

a. Long term sediment production - 50 years. Consider effects of thunderstorms and snow melt upon erosion and sediment production.

b. Consider the mass stability of walls, waste dump and leach heaps as affected by settling, erosion, water infiltration, and potential seismic activity.

c. Visual impact.

d. Final land use plans and desired configuration based upon above factors.

4. Plan for disposal of water coming into or from pits, dumps, stock piles and other surface facilities.

a. Check water quality before diverting water from pits, waste piles or other mine sites.

b. Create settling basins if necessary to contain sediment and debris. Also, plans must be made to maintain these structures.

c. Drain water away from dump and facilities to maintain stability of slopes.

d. Divert or ditch water into existing water courses.

e. Stabilize channels where water flows will be increased due to re-channeling and consolidation of water flows.

5. Plan to control drainage coming into pits and dumps from surrounding areas.

a. Drain water away from dumps and dump face for increased stability.

b. Drain water into pits to contain sediment. This helps to eliminate some hazards to humans and animals.

6. Get a geotechnical engineering review of the dump design for a large project if possible. Most mining companies will have this expertise if not available internally.

7. Evaluate reshaping, terracing, and angle of repose dumping against total disturbed acreage and final desired landforms when planning dump locations.

8. Also, consider effects of haul roads, conveyors, etc., in evaluating total disturbance.

9. Consider which roads may be left in place (Transportation Plan).

10. Consider effects of pit design (depth) on ground water and surface flow patterns.

11. Evaluate pit design for highwalls and consider:

a. Public safety.

b. Wildlife migration and other habitat possibilities.

c. Livestock access.

d. Visual impacts

e. Revegetation possibilities.

J. Pipelines.

43 CFR 3809 allows for the construction of pipelines related to locatable mineral exploration, development and production to be authorized under a notice, or plan of operations, and therefore, no right-of-way is required. However, a right-of-way may be issued for such a use if requested by the operator, or may be required if the pipeline is not for the exclusive use of the operation, or if the pipeline is not owned by the operator.

Assure that pipelines do not create unacceptable risks to environmental values. Depending on what is being carried in the pipe, engineering factors such as adequate wall material and thickness to withstand operating pressures, corrosion resistance, adequate seismic event design, protection from slumping soils, flood damage, weld testing and pressure testing need to be specified. Where substantial environmental or human risk exists, periodic testing, malfunction alarms, and automatic block valve shutdowns should be implemented or installed.

Pipelines are commonly used in mineral operations. They vary greatly in size. Pipeline installations above and beneath the surface create considerable environmental impacts. Consider the following in reclamation:

1. How long it will be needed?

2. What it will carry?

3. Should it be above or below surface?

4. Will it need to be replaced or rotated?

5. How much area is needed for installation and maintenance?

6. A contingency plan for leaks and spills.

7. Anticipate settlement of the cover layer on buried lines and compensate to reduce erosion along the line.

a. Mound up cover material over the pipe.

b. Provide for surface runoff to escape the trench area.

c. Construct waterbars at right angles to the slope rather than at right angle to the trench.

8. Save and replace topsoil on all disturbances.

9. Re-establish revegetation as soon as possible to protect soils.

10. Design right-of-way to protect visual resources.

11. Determine location of access and maintenance roads and whether they will be part of the transportation system.

12. Check trenches for settling one year after covering.

K. Powerlines and Communication Lines.

43 CFR 3809 allows for the construction of powerlines and communication lines related to locatable mineral exploration, development and production to be authorized under a notice, or plan of operations. However, a right-of-way may be issued for such use if requested by the operator, or may be required if the line is not for the exclusive use of the operation, or if the material used for the construction of the line is not owned by the operator.

Reclamation of powerlines and communication lines often comes after other reclamation has been accomplished.

1. To accomplish reclamation of powerlines:

a. Remove all towers and poles, or consider them for raptor nests if consistent with other resource values.

b. Remove cable and guy wires and anchors.

c. Reclaim access roads.

d. Re-establish vegetation in the alignment that compliments the surrounding vegetation and terrain.

2. To lessen reclamation problems:

a. Feather alignment in vegetation to provide a natural appearing opening. Do not allow maintenance of alignments which denude the area through the use of blading equipment, or herbicides.

b. Often, topping vegetation is all that is necessary to provide clearance for construction and maintenance access.

c. Protect alignments from off-road vehicle travel and wear that may cause additional erosion.

d. Alter vegetative types on alignment to provide species diversity for wildlife.

L. Transportation and Temporary Exploration Access.

1. Roads.

a. Planning - What does the operator require; road width, grade, turning radius, and support?

(1) Determine before construction if the road is to be retained or obliterated in final reclamation.

(2) Determine what road construction method will be. This can affect the amount of disturbance to reclaim. Common road building methods are: Side cast, cut and fill, or end haul.

b. Road Location and Construction.

(1) Locate roads on the flattest slopes. Ridgeline and contour roads are best.

(2) Can the location be reclaimed? Or what percent reclamation can be achieved?

(3) Select stable, dry routes. If wet areas cannot be avoided, consider use of geotextiles to bridge the area rather than using large fills. Fabrics can be left in place if they are below the surface.

(4) Generally avoid steep grades (greater than 15%) and side slopes (greater than 45%), though trade-offs may be necessary. Short sections of steep grade may be a better alternative than a substantially longer route, or the grade could be increased in stable areas with only slight erosion potential. If the road is to be used for more than one year, drainage structures are needed.

(5) When possible avoid areas where snow drifts and stays late into the spring. These areas may be difficult to revegetate.

(6) Minimize cuts and fills. The less area disturbed, the less to reclaim. Minimizing cuts and fills also reduces loss of material. Consider the use of vertical cut banks to reduce the volume of material which would need to be stored and then replaced.

(7) For wide roads on side slopes greater than 45%, consider use of end hauling to reduce the area covered by fill.

(8) In general, use of low water crossings rather than culverts is recommended to reduce maintenance requirements. If culverts are necessary, ensure that the culvert is properly sized to handle the preferred design event, aligned with the channel, placed in the stream bottom, and the fill is properly placed around the culvert.

(9) Where low standard roads cross drainages, dips in the roadbed will preclude capture of drainage by the road.

(10) Uncrowned roads should be water barred. Crowned roads should have roll ditches and tail ditches (Illustration 7).

(11) Maintain a 25- to 50-foot distance from the toe of the fill to streams depending on hillside slope and anticipated maximum stream flow. If constrained, consider use of end hauling rather than sidecasting of fill.

(12) A maintenance agreement for existing BLM roads should be incorporated into a notice or plan of operations. Maintenance must be to the guidelines expressed in the 9113 manual or County guidelines.

(13) Scraping hillsides above the road to gather fill causes unnecessary disturbance, is difficult to reclaim, and should be discouraged.

c. Reclamation - Reclamation of roads is often difficult; partial reclamation is always possible. The following are suggestions for enhancing road reclamation.

(1) For wider roads salvage topsoil during construction. Store uphill if possible.

(2) If road is to be utilized for more than one year, consider mulching and seeding of cut and fill slopes immediately after disturbance to control erosion and establish vegetative cover.

(3) The following actions should be considered when reclaiming roads:

(a) Remove culverts and restore drainage to its natural configuration.

(b) Shape cuts and fills to be seeded.

(c) Fertilize and seed after shaping.

(d) Introduce slash and trees to improve visual and microclimate.

(4) Reclamation of large (60 to 100 feet wide) haul roads in steep terrain usually needs the following:

(a) Rip to reduce compaction.

(b) Pull berm and outside shoulder up the cut slope as far as possible.

(c) If travel way will be retained, locate it on the outside edge of roadway.

(d) Reduce height of backslope where possible.

(e) If broadcast seeding, seed same day as disturbance to get maximum seed covering through sloughing and settling. Mulch and fertilize as appropriate.

2. Temporary Access.

a. Location Guidelines.

Use existing access whenever possible. Where there is no existing access, use the following guidelines:

(1) Follow natural terrain wherever possible to minimize cut and fill.

(2) If access is located in dry intermittent drainage way, do not alter the drainage way so as to impede free drainage. Do not channelize drainage way.

(3) Keep side cast material as far as possible from perennial water and riparian zones (seeps, springs, etc.).

(4) Crossing perennial water should be discouraged, however, if necessary, BLM should develop guidelines addressing each water crossing on a case-by-case basis.

(5) For exploration access, a flag line and on-site examination is usually sufficient. Base cut slope angle on material competency.

b. Reclamation Guidelines.

(1) Seeding may be required on all disturbed areas (areas where vegetation has been destroyed) subject to the following:

(a) Seeding may be required in areas receiving eight inches or more average annual precipitation.

(b) All disturbed areas should be scarified to at least six inches depth prior to seeding.

(c) BLM should develop seed mixes and application rates.

(2) In bladed areas:

(a) Waterbars may be required.

(b) Replace all side cast material back into disturbed area acceptable guidelines.1/

(3) In cut-and-fill areas recontour access area to natural slope to acceptable guidelines.1/

(4) In overland travel areas, seed ruts where vegetation has been destroyed.

(5) Remove all culverts and reclaim drainage to its former shape and gradient.

(6) Techniques used for final reclamation of exploration access based on resource value.

(a) Replace the disturbed area to the approximate original contour typically by either pushing fill back into cut with a dozer (slopes 0-40%) or using a large backhoe (slopes 40% or greater).

(b) Round off, cut and fill slopes, rip road surface on contour, and water bar as needed.

(c) Round off berms and water bar as necessary.

(7) Illustration 8 shows some suggested cut and fill practices and recommended procedures for waterbar construction.

M. Heap and Vat Leach Systems.

Gold and silver leaching involves applying a dilute cyanide solution to heaps or vats in order to dissolve precious metals. Both heap and vat leaches can be designed for loading and unloading where ore is placed on the heap for a period and removed or for loading only where ore is placed on the leach pad or vat and left in perpetuity. Successive lifts may be utilized on heap leach piles. Heap leach systems also include a pregnant solution pond, barren solution pond, and recovery circuit. Ore processing may include crushing, agglomeration, or simply placing pit run ore on heaps.

1/The level or degree of recontouring will be made on a case-by-case basis.

The State of Nevada has enforcement authority to assure these facilities are properly constructed to meet environmental guidelines under the Memorandum of Understanding (MOU) between Nevada BLM and the State of Nevada, Department of Conservation and Natural Resources. The Bureau has the responsibility of assuring that the operator has made the proper filings with the State of Nevada and that all appropriate permits have been issued. Also, that the conditions of approval attached to the state permit are incorporated in the approval of plans of operations and that the operator is complying with these conditions.

1. Heap Leach Facilities.

A variety of methods have been used to construct an impermeable base for heap leaching, with considerable improvement in facility performance occurring as designs and materials have improved.

a. Compacted soil base. Locally available clay, clayey subsoil or proceeded clay can be compacted. If the pad design does not propose additional impermeable layers, the compacted base should be examined closely for rock and vegetation which would allow leakage. Can be used where ground water is deep and overlain by impermeable strata.

b. More commonly the soil base serves as a backup liner and is overlain by a gravel layer and a 40 to 80 mil polyethylene primary liner. The gravel layer serves as a leak detection port.

c. A second gravel layer and/or perforated plastic pipe may be placed over the primary liners to reduce the hydraulic head on the liner and reduce potential for leakage.

d. In general, thinner liners can be used for short-term tests or if the base is well prepared and the liner is protected by gravel layers. Thicker liners are necessary to cover a rocky irregular base. The liner should extend horizontally, about two-thirds the heap height beyond the edge of the pad to contain small heap slope failures.

2. Vat Leach and Solution Ponds.

a. Design considerations include the ability to maintain integrity during a 100-year storm event and to contain, without discharge, a 25-year storm event. Since the area draining into the solution ponds can be considerable, a backup pond may be necessary to obtain adequate storage capacity for storm event. Due to the hydraulic head developed in solution pond and vat leach facilities, a double lined system with leak detection is required.

b. The solution collection system from the heap leach to solution pond can be by plastic pipe or lined ditch. The lined ditch can be gravel filled to reduce exposure of wildlife to the solution.

c. All toxic materials should be kept, transported and used in a manner which prevents exposure to human, animal or plant life.

3. An emphasis should be placed on completing inspections during construction. Examine the base for rock, vegetation or other debris that could puncture the liner, check liner seams and verify the type of liner and thickness. If professional quality construction is observed, the frequency of inspections can be decreased.

N. Water Diversions.

Stream diversions may be a necessary part of the mining plan. However, other alternatives should always be considered. Diversions of live streams should be discouraged wherever possible. Reasons for diverting streams should be closely examined including the structures or ponds, etc., that might occupy the original area of the stream channel. Check state or federal laws or regulations controlling stream diversions. Remember, stream diversions may have significant hydrologic impacts both upstream and downstream from the diversion.

O. Waste Dumps.

With the trend toward larger equipment, larger pits, and lower ore grades, there is also a trend toward larger waste dumps. With large surface dumps, it is important to consider appropriate performance guidelines for stability, drainage, and revegetation. Safety requirements can be calculated for each dump or waste embankment. A safety factor is a ratio of resisting forces to driving forces; by determining a structure's safety factor a numerical index of stability is obtained.

There are three types of dumps being constructed. These are; head of valley, cross valley, and sidehill dumps.

Head of valley fills should be engineered for a long-term factor of safety of not less than 1:1.

Cross valley fills have to provide for stream flow through the base of the dump. This is normally accomplished by constructing a rubble drain or french-drain. The long-term factor of safety for cross valley fills should be not less than 1.1. Provisions must also be considered for allowing flood waters or flood waves to enter the upstream end of the french-drain. Flood water must not be permitted to traverse the top of a cross valley fill. If the upstream end of a fill is truncated, a temporary flood water storage area may be created. Such a storage area is a technically acceptable way of dealing with flood waves. The french-drain must have sufficient capacity to transmit flood water safely through the base of the fill. The drain must also be constructed of durable, non-flaking rock. The french-drain and associated temporary storage areas should be able to accommodate the 25-year flood volume from either slight rain or from rain-on-snow.

Sidehill waste dumps tend to contain less volume than valley dumps. Sidehill waste dumps generally have performed satisfactorily but may need to be keyed into slope to obtain acceptable long-term stability. If the natural terrain is steep, the waste dump surface will be steep. Operating revegetation equipment on these dumps may be hazardous if the terrain and waste dump surface are steeper than 3:1.

Common types of waste dump failures include curved-arc failures, shallow flow slides, and foundation failures.

Curved-arc failures are generally preceded by tension cracks at the top of the slope and bulging at the toe. Common causes of curved-arc failures are: 1) The embankment height may be too great, 2) the slope rate is to steep for the soil shear strength, or 3) the toe of the slope is either undercut or becomes saturated. Possible solutions to these problems are buttressing the toe of the slope with additional waste material, reducing water infiltration, or reducing slope ratio.

Shallow flow slides usually occur during heavy rainfall or high snow melt and can range from highly fluid and mobile debris slides to slower more viscous earth flows. In Nevada these failures have occurred when fine grained incompetent and saturated dumps were placed on moderate slopes. These problems can be avoided through proper geotechnical analysis, or through the use of the methods of stability analysis.

Foundation failures occur when the slope wedge moves out along weak foundation soils. Foundation failures are generally caused by the end dumping method of fill placement which rapidly loads the foundation soils. Common failure-prone foundation materials include tertiary sedimentary valley fill and quaternary landslide deposits. Potential design changes to avoid these failures include successive waste embankments placed heel to toe, which are generally constructed downslope, that reduce both loading and the overall average waste dump slope.

From an economic standpoint, the shorter the haul distance and the closer the top of the waste dump to the pit elevation, the cheaper the operating cost will be. There may be a strong economic incentive to construct successive terraced dumps down a slope, as adverse haulage would be reduced as the pit gets deeper. Terraced dumps also have reclamation advantages over a large angle of repose dump since substantially less material would need to be moved to reduce the slope angle. Flatter is not always better, coarse durable material can be placed at the angle of repose. Fine non-durable material should be sloped to 3:1 which increases the slope area by a factor of two. Generally, when fill material is placed on a slope greater than 20° (35% or 3:1), the foundation and preparation requirements such as keying in the dump become critical. Dumps placed on slopes steeper than 27° (50% or 2:1) frequently are unstable.

The presence of clayey soils and shallow ground water in the foundation may limit the waste dump height or restrict placement to thin layers. Under these conditions, drainage diversion measures may be necessary in and around the dumps to reduce infiltration.

If waste dumps have been engineered with adequate safety factors, it is up to the operating company to construct the dump to design specifications. In order to meet the current on-the-ground conditions, it is almost always necessary to change one or more of the design specifications. This is the normal and expected situation. However, there should be frequent inspections during the construction period to ensure that design specifications are being met or changed in an approved manner. All dump designs should incorporate Visual Resource Management related guidelines.

P. Tailings Ponds.

The State of Nevada has enforcement authority to assure tailings ponds are properly constructed and environmental guidelines are maintained under the MOU between Nevada BLM and the State of Nevada, Department of Conservation and Natural Resources. The Bureau has the responsibility of assuring that the operator has made the proper filings with the State of Nevada and that all appropriate permits have been issued. Also, that the conditions of approval attached to the state permit are incorporated in the approval of plans of operations and that the operator is complying with these conditions.

When planning reclamation of a tailings pond, considerations will depend on whether the pond is old, new or abandoned. In general, stabilization and revegetation of tailings ponds is expensive and difficult. Both the chemical and physical properties of tailings inhibit stabilization and revegetation.

1. Reclamation cannot be realistically planned unless the chemical properties of the tailings are known. The following information needs to be obtained:

    a. Is the pond acid, caustic, or near neutral in pH?

    b. Is the pH expected to change naturally over time?

    c. Can the pH be adjusted at reasonable expense?

    d. Are there any adverse consequences associated with adjusting pH?

    e. Are heavy metal cations present?

    f. What other chemicals are present, and are they phytotoxic?

    g. Are there any chemicals left in the pond?

    h. Soil fertility must be analyzed.

2. If the pond is wet, it may be lined on the bottom.

3. Ground water contamination may be a problem.

4. Fugitive dust is a major environmental hazard associated with dry tailings ponds.

5. Sand or earth tailings pond dams must be designed to ensure long-term stability. Emergency spillways are usually needed.

6. Most tailings dams leak. A seepage return facility should be provided below the main dam.

7. The seepage return must operate as long as the main pond leaks.

8. Tailings materials are difficult to revegetate and usually require amendments to adjust to adverse chemistry.

9. Tailings also need to be stabilized against wind. Young vegetation will not survive severe wind blasting. Top dressing tailings material with 24 to 48 inches of soil may be necessary. If the surface cannot be successfully revegetated, consider covering with 12 inches of rock.

10. Where translocation of toxic material by plants or salt migration is a problem, provide a capillary barrier of coarse rock overlain by fine rock (10 to 12 inches) between the tailings surface and the growing medium or topsoil.

Q. Toxic Chemicals.

There are many toxic chemicals that are used in mining and drilling operations. This chapter is only intended to create an awareness of some of the more common toxic chemicals that may be encountered.

Cyanide is a highly toxic chemical and is used as a leachate for extracting precious metals from low-grade ores. Little is known about migration of free and complexed cyanides through soils. If introduced, Sodium Cyanide may remain in dry, alkaline soil for long periods of time. Cyanide oxidizes quickly when exposed to air and sunlight. Dilution, oxidation, and chemical alteration are good methods of reclamation. Cyanide is very reactive and short lived. Cyanide solutions must be controlled and contained.

Other Toxic Materials. Common contaminants that are particularly harmful to animals, fish, or people are; arsenic, nickel, cadmium, mercury, copper, lead and PCBs.

Common toxic contaminants to plants are; aluminum, zinc and copper.

All mineral operations should be examined for all of the aforementioned minerals if they are suspected to be present.

The State of Nevada has enforcement authority to assure that toxic chemicals are neutralized or do not pose a hazard. This is under the MOU between Nevada BLM and the State of Nevada, Department of Conservation and Natural Resources.

R. Reclamation of Underground Workings.

Unreclaimed entrances to underground mine workings pose a threat to the health and safety of persons, livestock, and wildlife. All entrances or openings onto underground workings shall be permanently sealed or blocked. Illustration 9 shows acceptable methods to block or close these types of mining disturbances. Other considerations for reclaiming underground workings and associated disturbances are listed below:

1. Check adit for acid mine drainage.

2. Remove surface improvements including but not limited to buildings, track, unused building material, containment ponds, ore stockpiles and ore bins, and other debris.

3. Shape and drain surface area of dumps. Depending on the material, the area may be prepared for seeding.

4. Flatten over-steepened backslopes around portal and ancillary improvements and revegetate them.

5. Assure that roads approaching or leaving the area are properly drained and treated.

6. Realize that attempts to establish vegetation on the face slopes will be dependent on the in-place material. Some weathered material may be treated and stabilized through seeding.

H-3809-1 - SURFACE MANAGEMENT

CHAPTER III - NOTICE

OUTLINE FOR NOTICES
SUBMITTED UNDER THE
43 CFR 3809 REGULATIONS

I. Claimant Information

A. Name
B. Address
C. Telephone Number

II. Operator Information (If different than claimant)

A. Name
B. Address
C. Telephone Number

III. Mining Claim Information (Also state if no claims have been located within the Project Area)

A. Claim Name(s)
B. BLM Serial Number(s)
C. Claim Type (Lode, Millsite, etc.)

IV. Location of Proposed Activity

A. Use legal description whenever possible (township, range, and section)
B. A map or sketch of the area is also recommended

V. Proposed Operations

A. Period of Operation (Estimated beginning and completion dates)
B. Access Routes (A description and location of existing access routes to be used and a description and location of any access routes to be constructed and the type of equipment to be used in their construction)
C. Existing Disturbance and Structures (A description and location of disturbances existing prior to January 1, 1981, structures, facilities, etc.)
D. Proposed Operations (A description of the type of operations and how they will be conducted, including the location and size of areas where surface disturbances, structures, facilities, etc., are proposed. Calculate the total acreage proposed for disturbance, one acre - 43,560 sq. ft.)
E. A map or sketch showing existing surface disturbances, structures, facilities, etc., and the location and size of areas where surface disturbances are proposed, including existing and/or proposed routes of access is recommended.

VI. Proposed Reclamation

A. A statement that reclamation of all areas disturbed will be completed to the standard described in Section 3809.1-3(d) of the 43 CFR 3809 regulations and that reasonable measures will be taken to prevent unnecessary or undue degradation of the Federal lands during operations.
B. Describe any proposed reclamation procedures or other measures to be taken to prevent unnecessary or undue degradation of the lands.

Notice to Operators

1. A notice submitted in relation to the 43 CFR 3809 regulations does not require approval from the BLM. Notification, however, is required at least 15 calendar days before commencing operations.

2. When necessary reclamation of the disturbed area has been completed, the authorized officer of the BLM shall be notified so that an inspection of the area can be made.

3. Generally, information that could be considered proprietary or confidential is not necessary to fulfill the notice requirements. However, information and data submitted and specifically identified or privileged commercial or financial information should be attached to a separate page and cited in the text of the notice. This information should be identifed as proprietary or confidential by the claimant/operator and will be filed separately. Such identified information will not be available for public inspection.

4. Failure of an operator to file a notice, as required by the 43 CFR 3809 regulations, will subject the operator to being served a notice of noncompliance or enjoined from the continuation of such operations by a court order until such time as a notice is filed with the BLM.

H-3809-1 - SURFACE MANAGEMENT

CHAPTER III - NOTICE

3809 NOTICE CHECKLIST

NOTICE NO.:_____ OPERATOR:_____ Date all review must be completed:_____

T._____, R._____, Section(s)_____

MINERALS: Comments:_____

_____

_____, GEOLOGIST_____ Date_____

THE RESOURCE VALUES AND SURFACE PROTECTION CONCERNS LISTED BELOW HAVE BEEN REVIEWED.

1. CULTURAL RESOURCES

_____ _____ _____
Name Title Date

Comments: _____

_____

2. WILDLIFE/THREATENED AND ENDANGERED SPECIES

_____ _____ _____
Name Title Date

Comments:_____

_____

3. _____

_____ _____ _____
Name Title Date

Comments: _____

_____

4. _____

_____ _____ _____
Name Title Date

Comments: _____

_____

Additional Resource Review/Comments:_____

_____

_____

_____

_____

_____

THE ABOVE REVIEW DICTATES THE FOLLOWING COURSE OF ACTION:

☐ See Below ☐ None ☐ Recommended contact with the operator to resolve resource conflicts noted above.

_____

_____

_____

_____

Reviewed: _____ _____
Area Manager Date

H-3809-1 - SURFACE MANAGEMENT

CHAPTER IV - PLAN OF OPERATIONS

OUTLINE FOR PLANS OF OPERATIONS
SUBMITTED UNDER THE
43 CFR 3809 REGULATIONS

I. Claimant Information

A. Name
B. Address
C. Telephone Number

II. Operator Information (if different than claimant)

A. Name
B. Address
C. Telephone Number

III. Mining Claim Information (If no claims located, describe project area by township, range and section)

A. Claim Name(s)
B. Claim Type (Lode, Millsite, etc.)
C. BLM Serial Number(s)
D. Location of Claim(s) (Township, Range, Section)

IV. Proposed Operations

A. Period of Operation (estimated beginning and completion dates)
B. Access Routes (A description and location of existing access routes to be used and a description and location of any access routes to be constructed and the type of equipment to be used in their construction)
C. Existing Disturbance and Structures (A description and location of surface disturbances existing prior to January 1, 1981, structures, facilities, etc.)
D. Proposed Operations (A description of the type of operations and how they will be conducted, including the location and size of areas where surface disturbances, structures, facilities, etc., are proposed. Calculate the total acreage proposed for disturbance. One acre = 43,560 sq. ft.)

V. Proposed Reclamation

A. Reclamation and Other Measures to Prevent Unnecessary or Undue Degradation (A description of the proposed reclamation procedures to reclaim disturbed areas resulting from the proposed operations, including the standards listed in Section 3809.1-3(d) of the surface management regulations, and other measures to be taken to prevent unnecessary or undue degradation of the lands)
B. Extended Period of Nonoperation (A description of the measures to be taken during extended periods of nonoperation to maintain the area in a safe and clean manner and to reclaim the land to avoid erosion and other adverse impacts. If not filed at the time plan submitted, this information is to be submitted whenever an extended period of nonoperation is anticipated)

VI. Maps and/or Sketches

A. Map/Sketch Requirements (A map, preferably a topographic map, or sketch showing surface disturbances existing prior to January 1, 1981, structures, facilities, etc., and the locations and size of areas where surface disturbances are proposed, including existing and/or proposed routes of access, aircraft landing areas, etc.)

Notice to Operators

1. Approval of a submitted plan of operations is required from the BLM prior to commencing operations. The BLM will promptly acknowledge receipt of a submitted plan and will notify the operator of the status of the plan within 30 days of receipt of the plan.

2. Approval of a plan of operations does not constitute certification of ownership to any person named as owner of any listed mining claim, nor does approval constitute recognition of the validity of any mining claim named in an approved plan.

3. Generally, information that could be considered proprietary or confidential is not necessary to fulfill plan of operations requirements. However, information and data submitted and specifically identified by the operator as containing trade secrets or confidential or privileged commercial or financial information should be attached to a separate page and cited in the text of the plan of operations. This information will be filed separately and will not be available for public inspection.

4. Failure of an operator to file a plan of operations, as required by the 43 CFR 3809 regulations, will subject the operator to being served a notice of noncompliance or enjoined from the continuation of such operations by a court order until such time as a plan is filed with the BLM.

H-3809-1 - SURFACE MANAGEMENT

CHAPTER VI - COMPLIANCE

Nevada 3809 Compliance Inspection Report

Case file #

Serial No._____ District_____ Resource Area_____
Operator_____ Project Name_____
Location T._____, R._____, Section(s)_____
T._____, R._____, Section(s)_____
Other Notice(s)/Plan(s) on Site or nearby_____

Type of Activity	Proposed Disturbance		Actual Disturbance		Reclaimed	
ROAD WORK	# Feet	Acres	# Feet	Acres	# Feet	Acres
__Maintenance						
__Building						
__Other:_____						
EXPLORATION	# Locations		# Locations		# Locations	
__Drilling						
__Trench/Pit						
__Other:_____						
DEVELOPMENT	Type		Type		_____	
__Mine						
__Mill						
__Leach						
MINING					_____	
__Open Pit						
__Underground						
__Other:_____						
PROCESSING					_____	
__Milling						
__Leaching						
__Other:_____						
TOTAL						

Hazardous Materials on Site:_____
Operator in Conformance with Notice/Plan Requirements: Yes____ No____

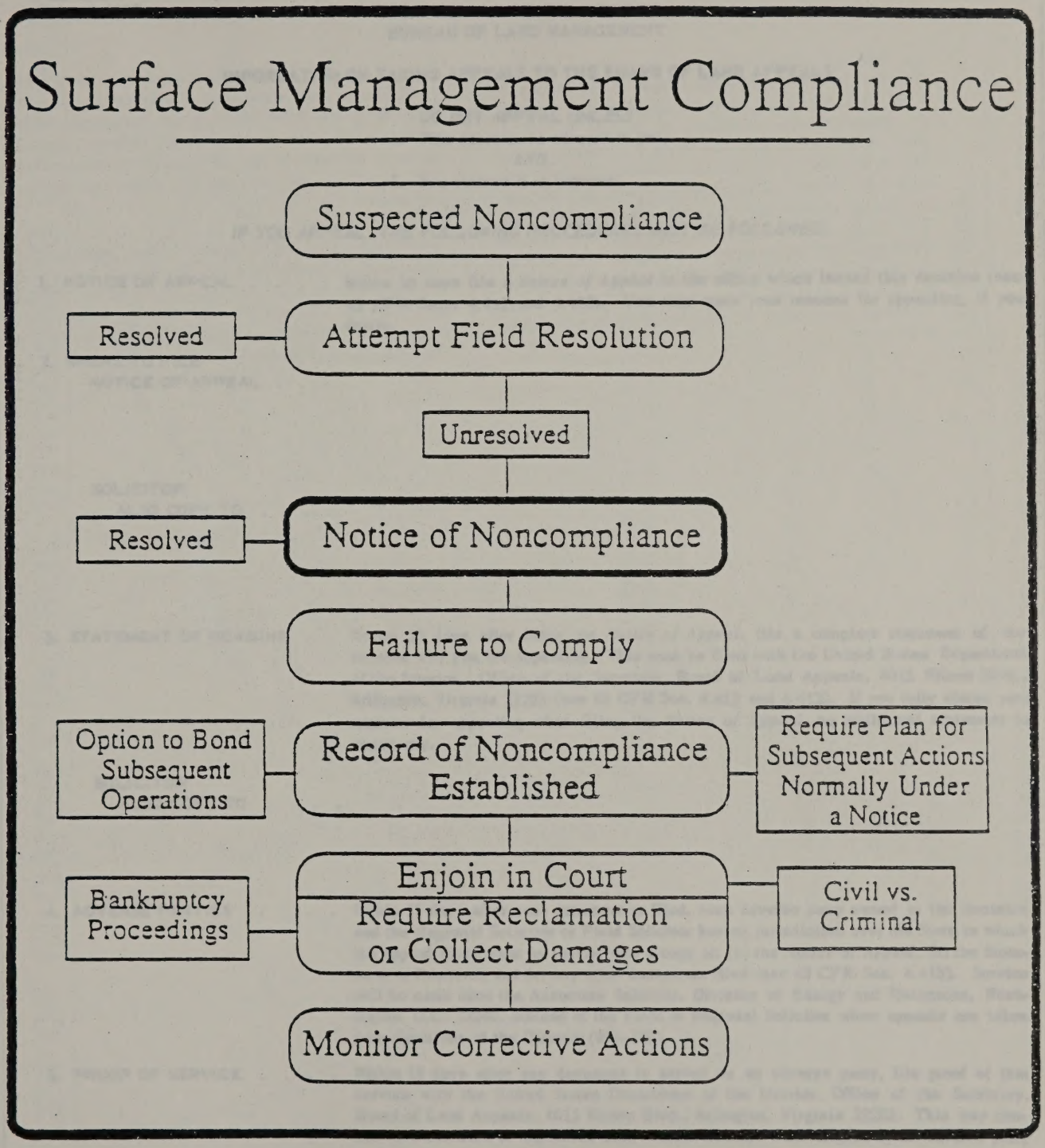
Comments:_____

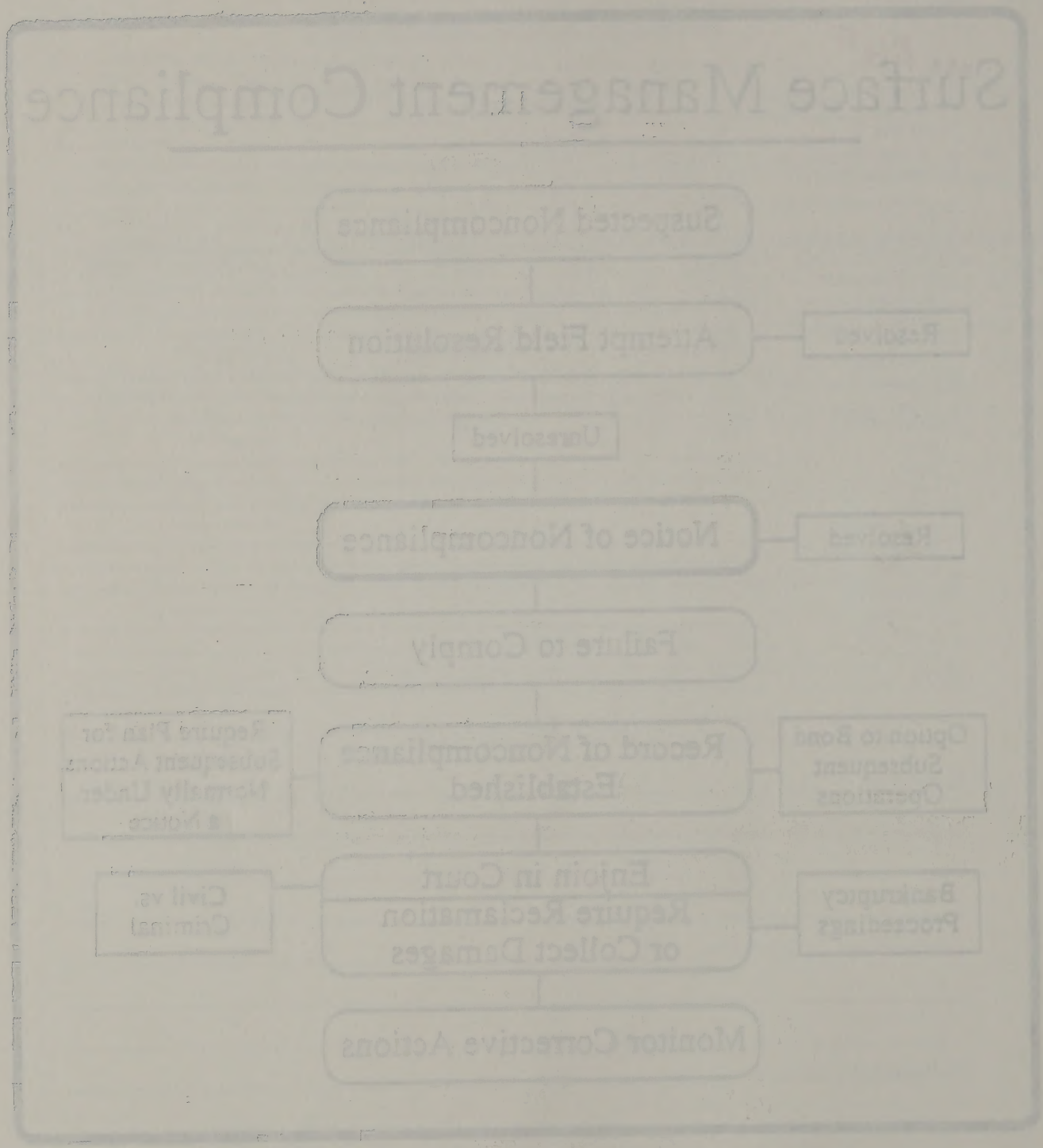
Instructions to Operator:_____

Recommended Action(s):_____

Photographs Taken:_____

Inspector:_____ Date of Inspection:_____


Surface Management Compliance
Suspected Noncompliance
Resolved
Attempt Field Resolution
Unresolved
Resolved
Notice of Noncompliance
Failure to Comply
Option to Bond Subsequent Operations
Record of Noncompliance Established
Require Plan for Subsequent Actions Normally Under a Notice
Bankruptcy Proceedings
Enjoin in Court
Require Reclamation or Collect Damages
Civil vs. Criminal
Monitor Corrective Actions


Surface Management Compliance
Suspected Noncompliance
Attempt Field Resolution
Resolved
Unresolved
Notice of Noncompliance
Resolved
Failure to Comply
Record of Noncompliance Established
Request Plan for Subsequent Actions Normally Under a Notice
Option to Bond Subsequent Operations
Civil vs Criminal
Enjoin in Court
Require Reclamation or Collect Damages
Bankruptcy Proceedings
Monitor Corrective Actions

Form 1842-1
(February 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

INFORMATION ON TAKING APPEALS TO THE BOARD OF LAND APPEALS

DO NOT APPEAL UNLESS

1. This decision is adverse to you,

AND

2. You believe it is incorrect

IF YOU APPEAL, THE FOLLOWING PROCEDURES MUST BE FOLLOWED

1. NOTICE OF APPEAL . . . . Within 30 days file a *Notice of Appeal* in the office which issued this decision (see 43 CFR Secs. 4.411 and 4.413). You may state your reasons for appealing, if you desire.

2. WHERE TO FILE
NOTICE OF APPEAL . . .

SOLICITOR
ALSO COPY TO . . . .

3. STATEMENT OF REASONS . . Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203 (see 43 CFR Sec. 4.412 and 4.413). If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary.

SOLICITOR
ALSO COPY TO . . . .

4. ADVERSE PARTIES . . . . Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in which the appeal arose must be served with a copy of: (a) the *Notice of Appeal*, (b) the Statement of Reasons, and (c) any other documents filed (see 43 CFR Sec. 4.413). Service will be made upon the Associate Solicitor, Division of Energy and Resources, Washington, D.C. 20240, instead of the Field or Regional Solicitor when appeals are taken from decisions of the Director (WO-100).

5. PROOF OF SERVICE . . . . Within 15 days after any document is served on an adverse party, file proof of that service with the United States Department of the Interior, Office of the Secretary, Board of Land Appeals, 4015 Wilson Blvd., Arlington, Virginia 22203. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (see 43 CFR Sec. 4.401(c)(2)).

Unless these procedures are followed your appeal will be subject to dismissal (see 43 CFR Sec. 4.402). Be certain that all communications are identified by serial number of the case being appealed.

NOTE: *A document is not filed until it is actually received in the proper office (see 43 CFR Sec. 4.401(a))*

SUBPART 1821.2--OFFICE HOURS; TIME AND PLACE FOR FILING

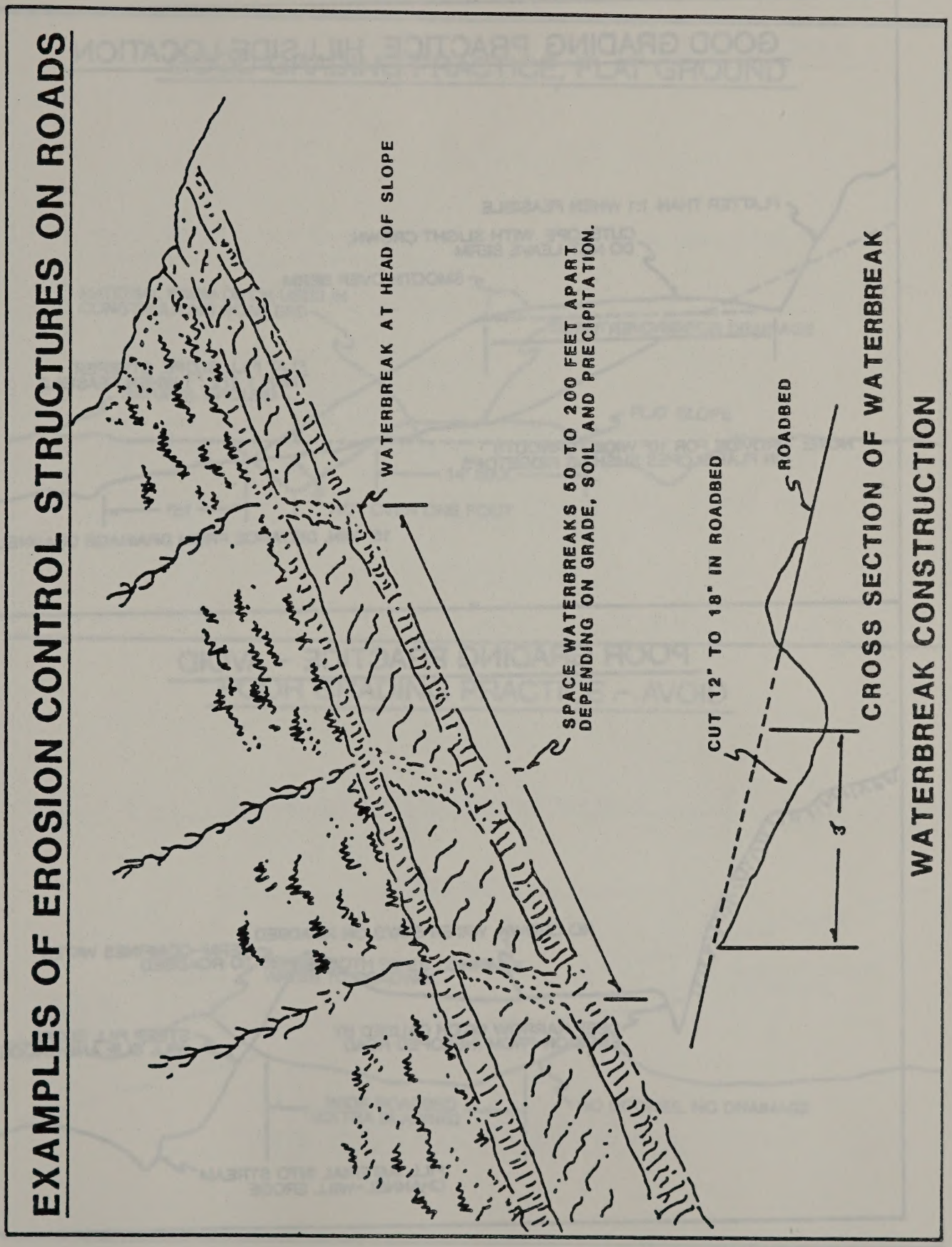
Sec. 1821.2-1 *Office hours of State Offices.* (a) State Offices and the Washington Office of the Bureau of L nd Management are open to the public for the filing of documents and inspection of records during the hours specified in this paragraph on Monday through Friday of each week, with the exception of those days where the office may be closed because of a national holiday or Presidential or other administrative order. The hours during which the State Offices and the Washington Office are open to the public for the filing of documents and inspection of records are from 10 a.m. to 4 p.m., standard time or daylight saving time, whichever is in effect at the city in which each office is located.

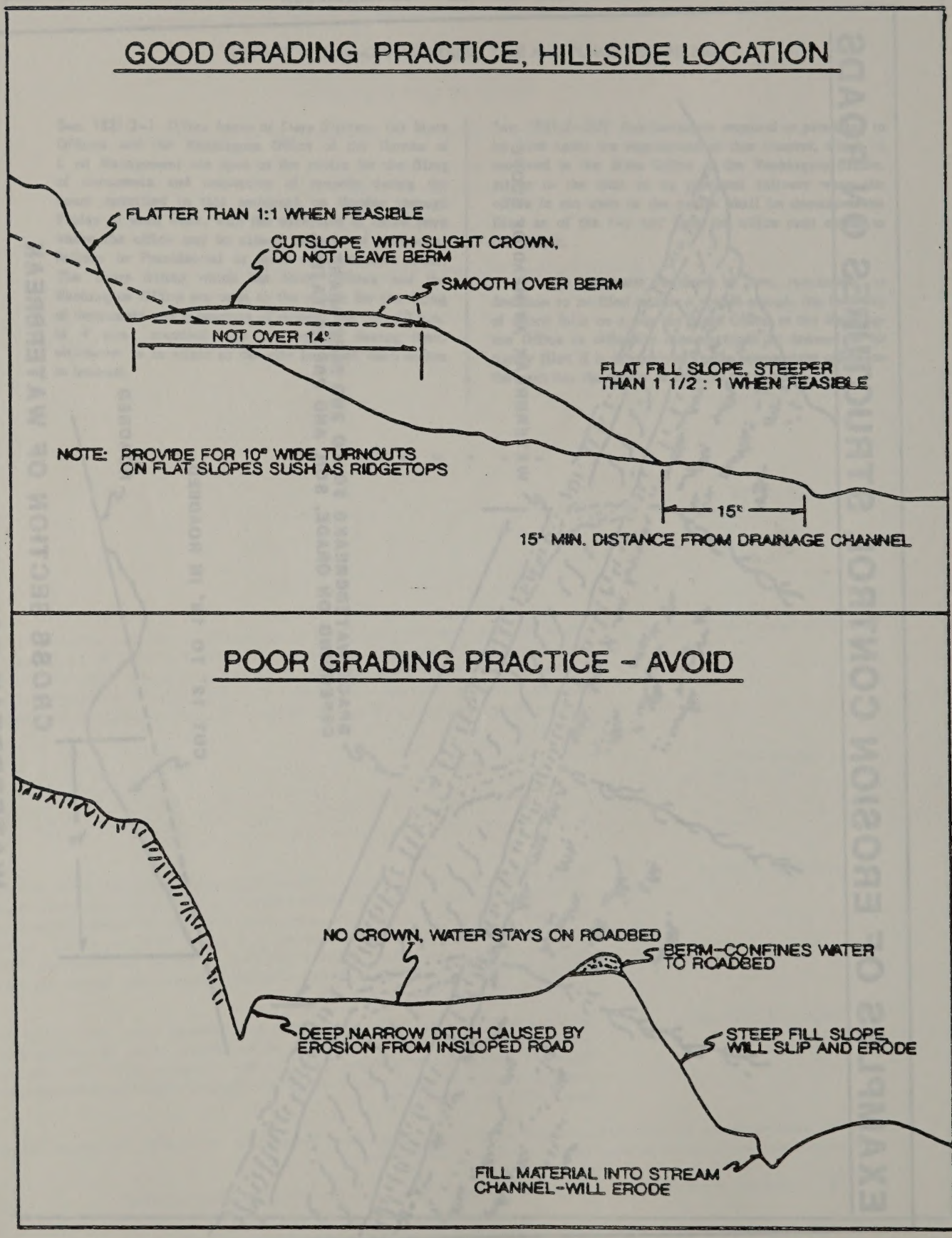
Sec. 1821.2-2(d) Any document required or permitted to be filed under the regulations of this chapter, which is received in the State Office or the Washington Office, either in the mail or by personal delivery when the office is not open to the public shall be deemed to be filed as of the day and hour the office next opens to the public.

(e) Any document required by law, regulation, or decision to be filed within a stated period, the last day of which falls on a day the State Office or the Washington Office is officially closed, shall be deemed to be timely filed if it is received in the appropriate office on the next day the office is open to the public.

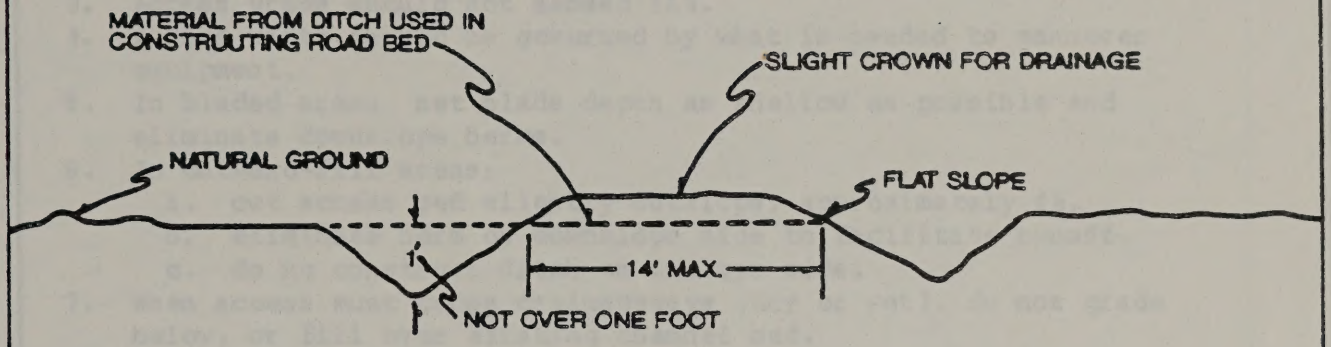
* * * * *

EXAMPLES OF EROSION CONTROL STRUCTURES ON ROADS

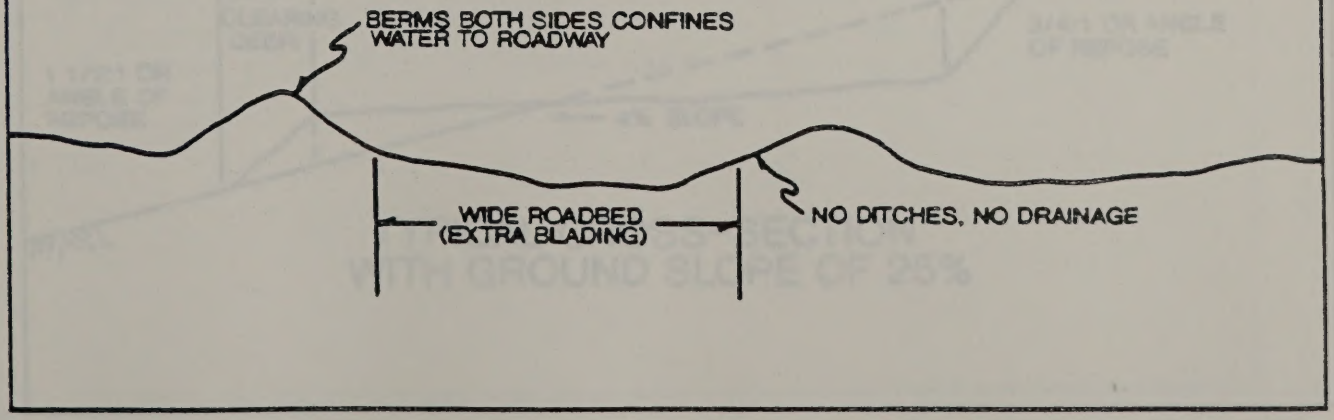

WATERBREAK AT HEAD OF SLOPE
SPACE WATERBREAKS 50 TO 200 FEET APART DEPENDING ON GRADE, SOIL AND PRECIPITATION.
CUT 12" TO 18" IN ROADBED
ROADBED
3'
CROSS SECTION OF WATERBREAK
WATERBREAK CONSTRUCTION

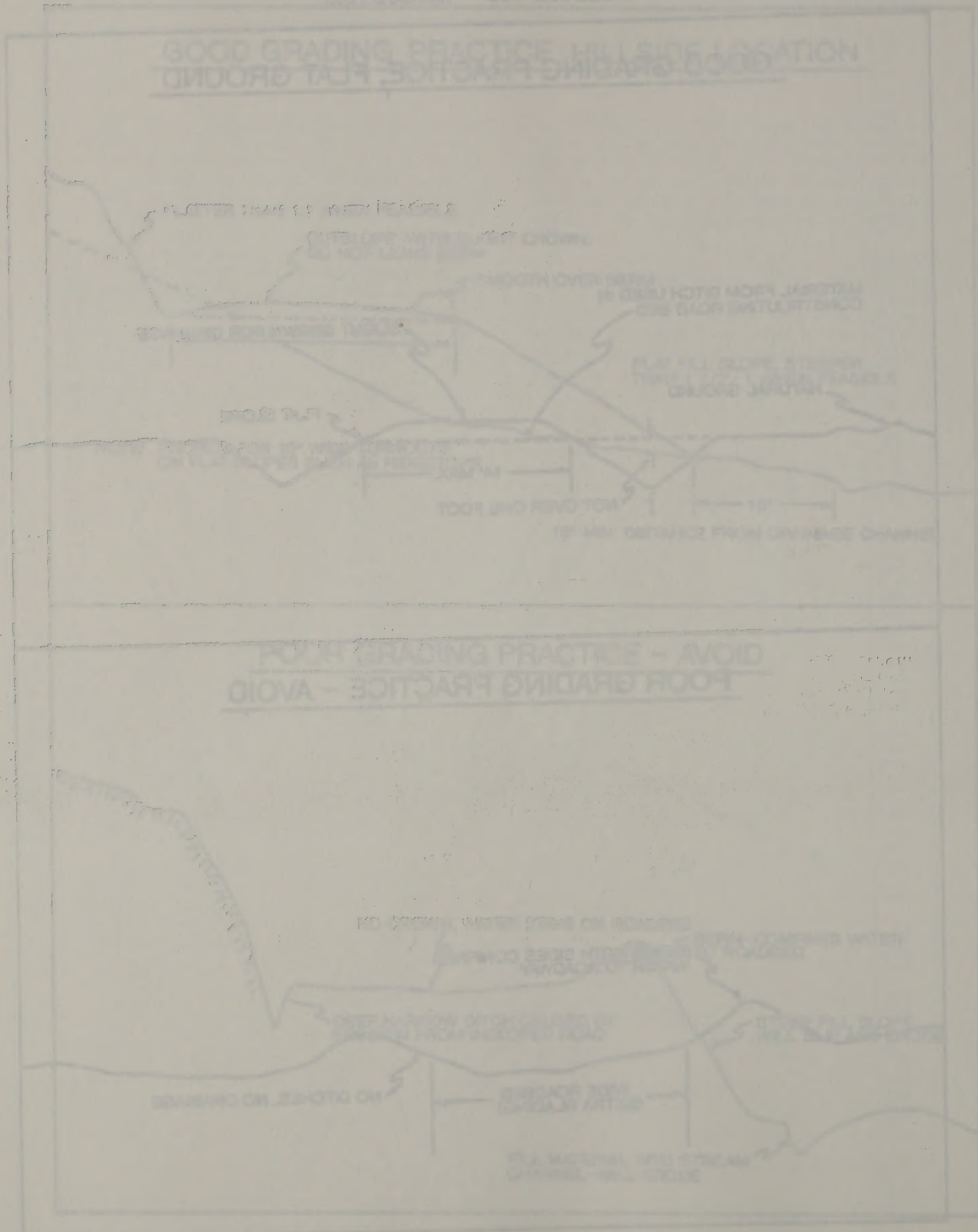

GOOD GRADING PRACTICE, HILLSIDE LOCATION
FLATTER THAN 1:1 WHEN FEASIBLE
CUTSLOPE WITH SLIGHT CROWN, DO NOT LEAVE BERM
SMOOTH OVER BERM
NOT OVER 14'
FLAT FILL SLOPE, STEEPER THAN 1 1/2 : 1 WHEN FEASIBLE
NOTE: PROVIDE FOR 10' WIDE TURNOUTS ON FLAT SLOPES SUSH AS RIDGETOPS
15'
15' MIN. DISTANCE FROM DRAINAGE CHANNEL
POOR GRADING PRACTICE - AVOID
NO CROWN, WATER STAYS ON ROADBED
BERM-CONFINES WATER TO ROADBED
DEEP NARROW DITCH CAUSED BY EROSION FROM INSLOPED ROAD
STEEP FILL SLOPE WILL SLIP AND ERODE
FILL MATERIAL INTO STREAM CHANNEL-WILL ERODE

GOOD GRADING PRACTICE, FLAT GROUND



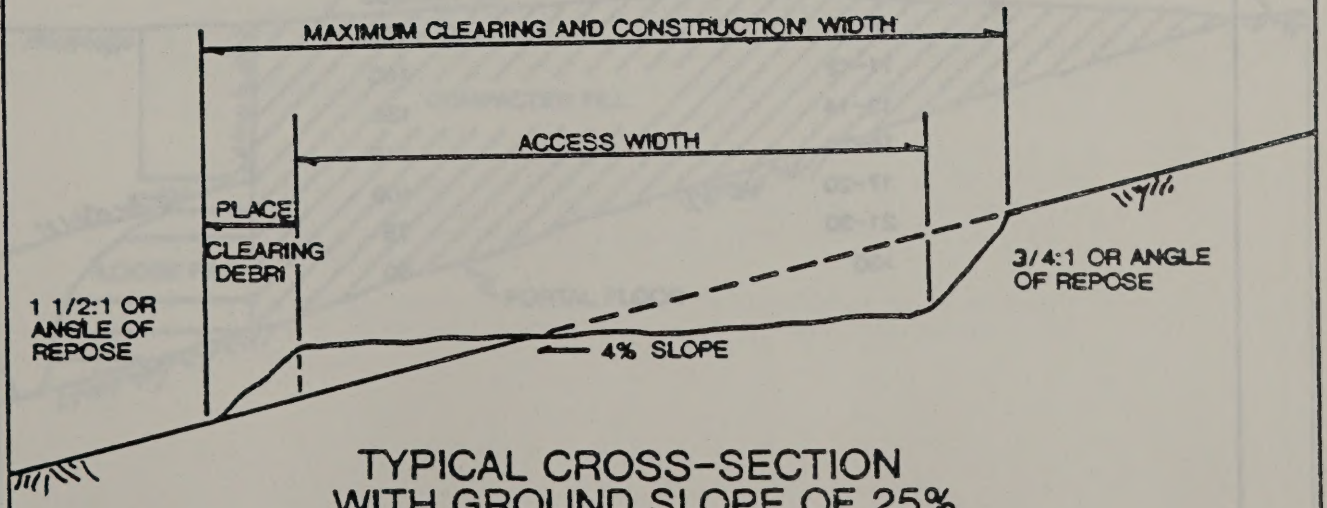
POOR GRADING PRACTICE - AVOID





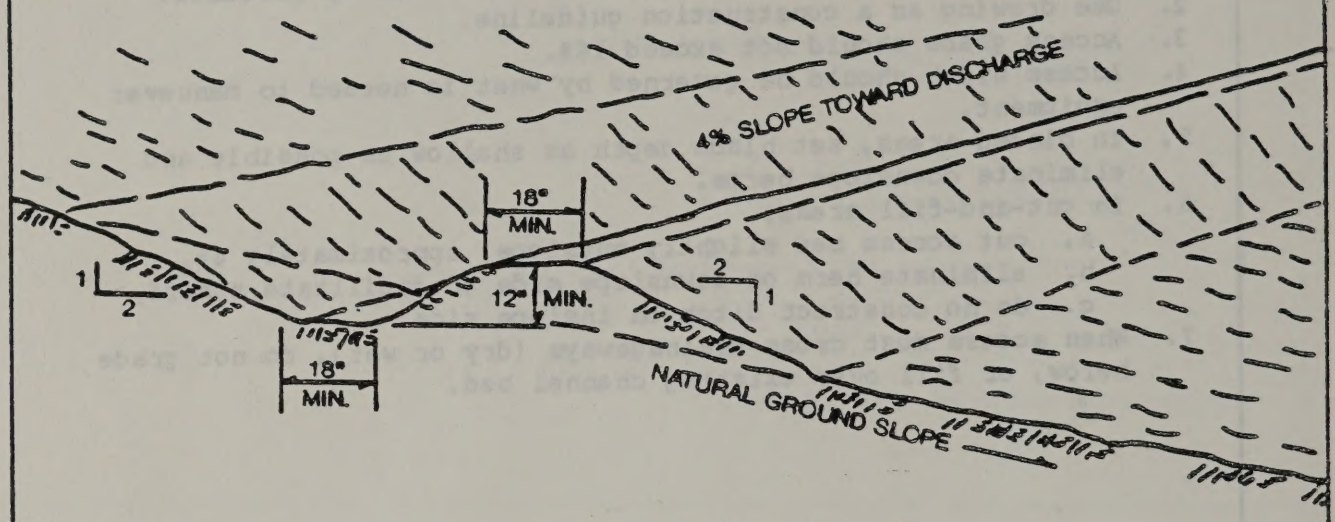
TEMPORARY ACCESS CONSTRUCTION GUIDELINES

1. Keep clearing and construction areas as small as possible.
2. Use drawing as a construction guideline.
3. Access grade should not exceed 16%.
4. Access width should be governed by what is needed to manuever equipment.
5. In bladed areas, set blade depth as shallow as possible and eliminate downslope berms.
6. In cut-and-fill areas:
   a. cut access bed slightly outslope, approximately 4%,
   b. eliminate berm on downslope side to facilitate runoff,
   c. do no construct ditch on inslope side.
7. When access must cross drainageways (dry or wet), do not grade below, or fill over existing channel bed.



TYPICAL CROSS-SECTION
WITH GROUND SLOPE OF 25%

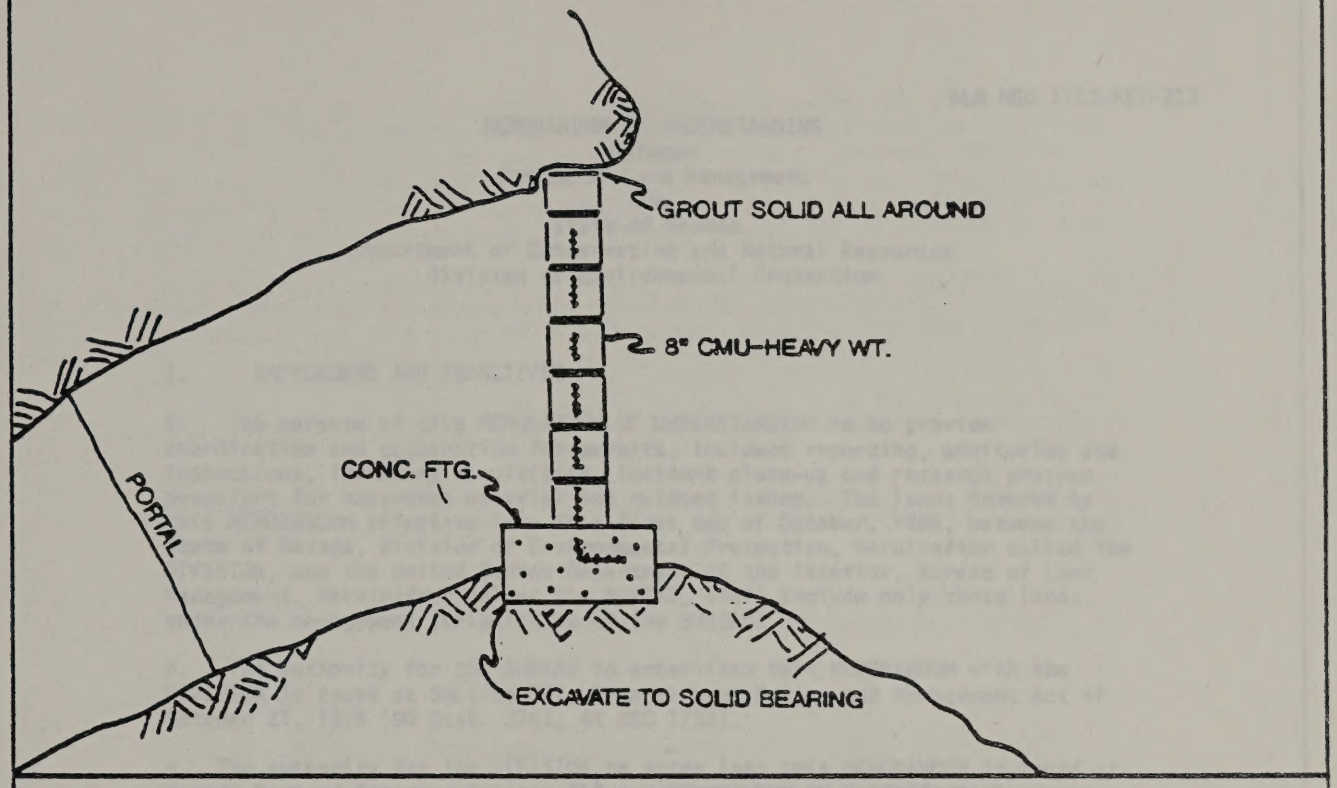
TEMPORARY ACCESS CONSTRUCTION GUIDELINES

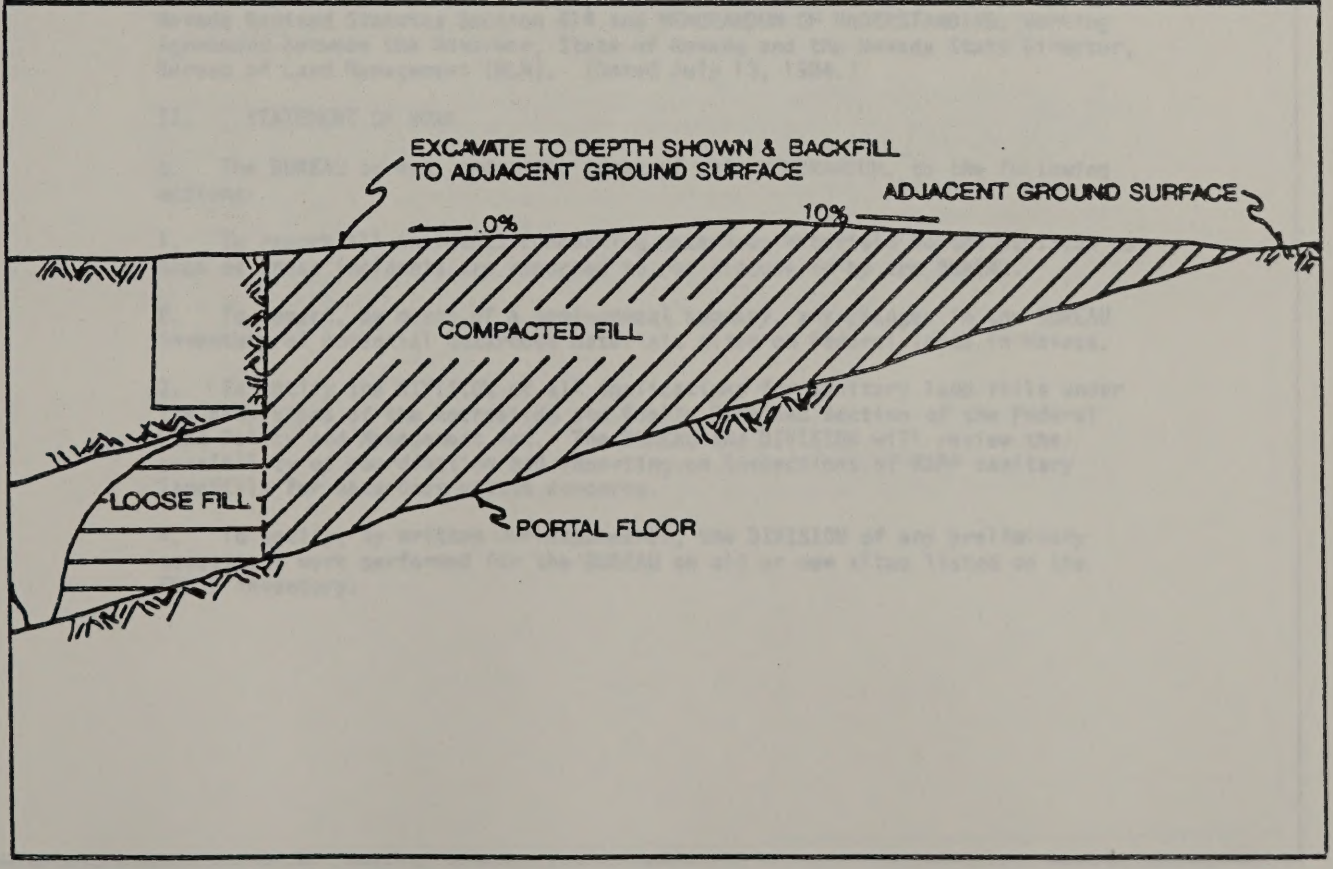


WATERBAR SPACINGS :

SLOPE (%)	SPACING (FT.)
0-5	NONE REQ.
6-8	250
9-10	190
11-12	160
13-14	135
15-16	115
17-20	100
21-30	75
>30	50

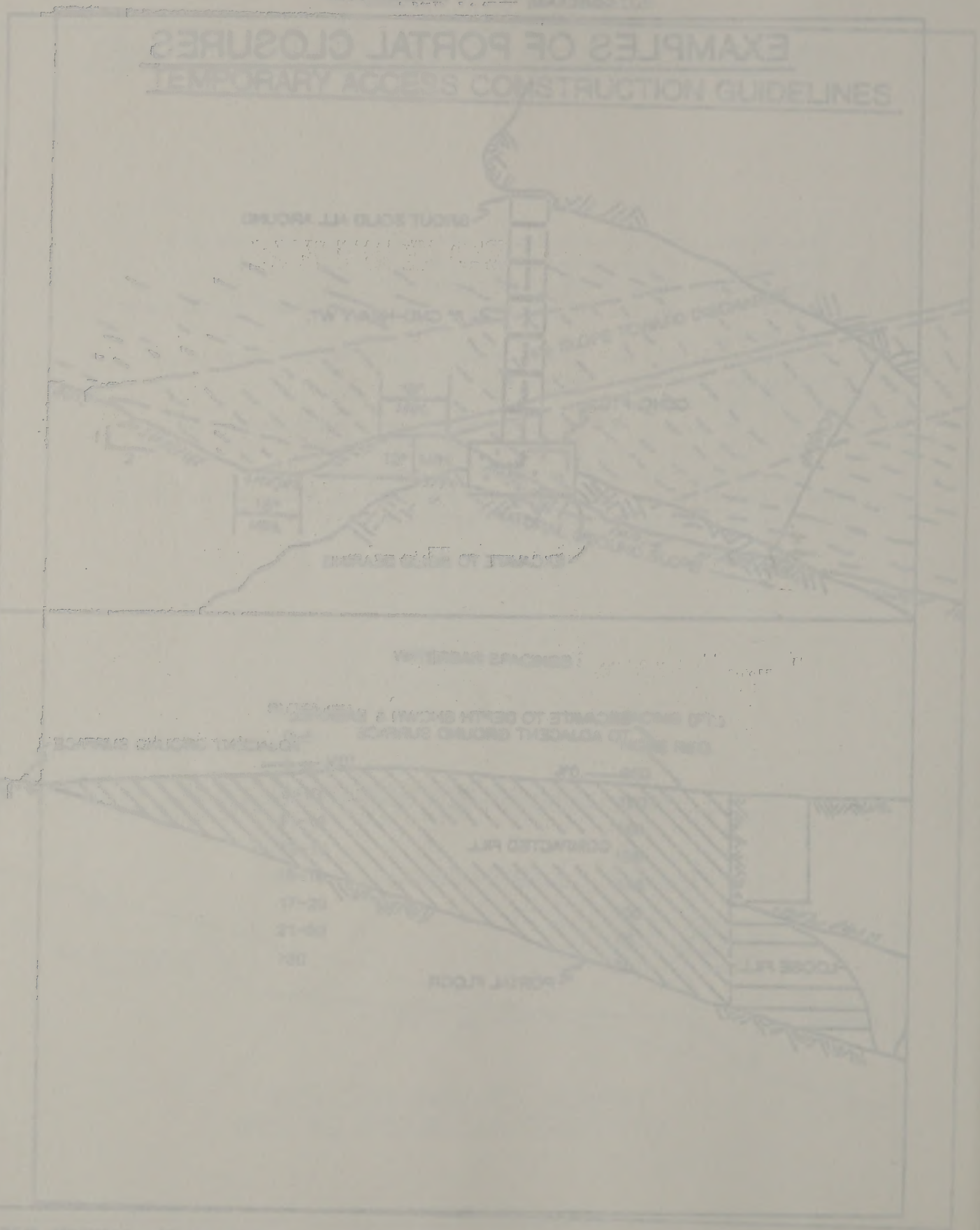
EXAMPLES OF PORTAL CLOSURES





EXAMPLES OF PORTAL CLOSURES

TEMPORARY ACCESS CONSTRUCTION GUIDELINES



BLM MOU 1703-NEV-213

MEMORANDUM OF UNDERSTANDING
between
Bureau of Land Management
and
State of Nevada,
Department of Conservation and Natural Resources
Division of Environmental Protection

I. BACKGROUND AND OBJECTIVES

a. The purpose of this MEMORANDUM OF UNDERSTANDING is to provide coordination and cooperation for permits, incident reporting, monitoring and inspections, inventory acquisition, incident clean-up and research program oversight for hazardous material and related issues. The lands covered by this MEMORANDUM effective into this first day of October, 1986, between the State of Nevada, Division of Environmental Protection, hereinafter called the DIVISION, and the United States Department of the Interior, Bureau of Land Management, hereinafter called the BUREAU, shall include only those lands under the management jurisdiction of the BUREAU.

b. The authority for the BUREAU to enter into this MEMORANDUM with the DIVISION is found at Section 307, Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2763, 43 USC 1733).

c. The authority for the DIVISION to enter into this MEMORANDUM is found at Nevada Revised Statutes Section 514 and MEMORANDUM OF UNDERSTANDING, Working Agreement between the Governor, State of Nevada and the Nevada State Director, Bureau of Land Management (BLM). (Dated July 13, 1984.)

II. STATEMENT OF WORK

a. The BUREAU agrees, under the terms of this MEMORANDUM, to the following actions:

1. To report all incidents concerning Hazardous Materials to the DIVISION as soon as these incidents are reported to, or discovered by the BUREAU.

2. To report, by means of a semi-annual summary, any changes in the BUREAU inventory of potential hazardous materials sites on Federal lands in Nevada.

3. To notify the DIVISION of all applications for sanitary land fills under the provisions of the Recreation and Public Purposes section of the Federal Land Policy and Management Act. The BUREAU and DIVISION will review the possibility of coordination and reporting on inspections of R&PP sanitary landfills for hazardous wastes concerns.

4. To notify, by written correspondence, the DIVISION of any preliminary assessment work performed for the BUREAU on old or new sites listed on the ERRIS inventory.

5. To notify, by written correspondence, the DIVISION of any pending BUREAU overflight for reconnaissance for documentation of existing conditions of listed ERRIS inventory in order to allow Division to participate.

6. To coordinate, principally through written correspondence, any clean-up, remedial or research actions being considered by or undertaken by the BUREAU.

7. To provide, upon request of the DIVISION, pertinent non-proprietary information furnished to the BUREAU under the requirements found in 43 CFR 3802 and 43 CFR 3809 for mining operations on lands administered by BLM.

8. To transmit to the DIVISION all oil, gas, and geothermal drilling permits and plans, plus all mineral plans and notices of noncompliance or violation concerning hazardous materials or potentially hazardous waste issues detailing operator name, address, location and activity.

9. To notify the DIVISION, in drafting rules or any industry, corporation or individual seeking to treat, store or dispose of hazardous materials on Federal lands.

10. To provides assistance, if requested by the DIVISION, in drafting rules or procedures affecting hazardous materials on Federal lands.

b. The DIVISION agrees, under the terms of this memorandum, to the following actions.

1. To transmit to the BUREAU copies of all permits and determinations (decisions) relating to the use of cyanide in mining operations. This correspondence shall be addressed to the State Director, attention Deputy State Director, Mineral Resources, NV-920.

2. To notify the BUREAU of all incidents involving hazardous material on Federal lands as soon as such data are reported to the DIVISION, if not already reported by the BUREAU.

3. To notify the BUREAU of any hazardous material sites and/or unlawful situations occurring on BUREAU-adminstered lands with the State of Nevada. To notify the BUREAU of any proposed regulatory action on Federal lands prior to issuing such orders. Notification shall be made in a timely manner.

4. To notify the BUREAU, through written correspondence, of any changes in the formal CERCLIS inventories.

5. To furnish the BUREAU a copy of the proposal, data and final results of any research projects relating to hazardous wastes in the environment.

6. To notify the BUREAU of any proposed hazardous waste disposal sites which could affect public lands as far in advance as possible.

III. TERM of AGREEMENT

The term of this agreement shall be for a period of five years from the date of the final approval of this MEMORANDUM.

IV. KEY OFFICIALS

For the purposes of fulfilling the terms of this MEMORANDUM, the Deputy State Director, Mineral Resources represent the BUREAU and the Administrator, Division of Environmental Protection shall represent the DIVISION on all matters requiring actions and approvals.

V. MEETINGS

The BUREAU and DIVISION shall meet at least semi-annually to discuss the workings of the MOU and identify further issues regarding hazardous materials and other related concerns.

VI. TERMINATION

This MEMORANDUM shall be terminated by either party upon a sixty-day notice and approval by both parties to this agreement.

VII. AMENDMENTS

Amendments to this agreement may be proposed at any time by any of the signatories, and shall become effective upon approval by all.

VIII. LIMITATIONS

Nothing in this MOU shall be construed as limiting or modifying in any way the authority or statutory or regulatory responsibilities of the Governor or the Nevada State Director, or as binding either the State of Nevada or BLM to perform beyond their respective authorities.

Director, Department of Conservation and Natural Resources

By _____

Date: 10-6-86

State Director, Bureau of Land Management, Nevada

By _____

Date: 9/29/86

Case file Documentation

Case files must be well-documented for accurate reporting and for the successful support of noncompliance cases. An adequate case file documents the complete chain of events and decisions made by the Bureau. The file shall also support the rationale for each of these steps and decisions. At the minimum, case files in support of noncompliance cases shall contain copies of all related correspondence, including the following information:

1. Claim recordation data from the MCR micofiche. Copies of location notice and record of ownership may be included on a case by case basis.

2. Description of land status (open, withdrawn, Wilderness, Wilderness Study Area, ACEC or other Special Management Area).

3. Topographic map showing the project area and relationship to claim block, if any. (May be supplied by the operator or prepared by BLM).

4. Any notice or plan of operation previously filed; EA, Review Sheet, Cultural Survey, if any, and relevant correspondence.

5. Any current notice or plan of operation filed: EA if any, and correspondence.

6. Copies of relevant State or Federal permits or EA's for project.

7. Correspondence with local, State and Federal agencies.

8. Any decision letters sent to both the operator and claim owner.

9. Appeal(s) filed by owner, operator, or adversely affected party.

10. Return receipts or "refused" envelopes relating to Bureau correspondence with operator or claimant.

11. Compliance inspection report(s) detailing results of inspection(s).

12. Written warnings.

13. Documentation of verbal, on-the-ground efforts to rectify noncompliance (see Manual Section 3809.32).

Case file Documentation

14. Notice on noncompliance.

15. List of administrative costs incurred by the Bureau, so that cost recovery can also be included in any court action. Include travel and vehicle expenses, work hours for office and field work, and identification and salaries of those involved in the case. File documentation of expenses should be regularly maintained on a daily basis as actions occur on the case.

16. A chronological summary of events documented in the case file, attached to the front of the file and updated with each new entry.

17. Photographs.

Version 4.5 Mineplan Notices Data Base Installation
PC Version for Wang and IBM Clones

1. This diskette MUST remain in Drive A for the duration of the installation. Under no circumstances should it be removed.If removed the installation will abort and could cause permanent damage to your system.

2. From the PC's Main Menu, select the DOS Command Processor. The PC will respond with the DOS prompe C: \>. Now do the following exactly as shown:

   C: \>A: INSTALL MINEPLAN, depress <Enter> on the Clone
   or <Return> on the Wang.

3. The system will respond by displaying a message of what process is taking place. Once completed, the user will be in the data base at the Aspen/2 prompt of Enter next command:. The user must now do the following:

   On the Clone;
   Enter next command: DONE, depress <Enter>.

   On the Wang;
   Enter next command: TT=5, depress <Return>.
   Enter next command: SDV, depress <Return>.
   Enter next command: DONE, depress <Return>.

4. The system will do a couple of procedures "Behind the Scenes" and return the user to the PC's Main Menu.

This will complete the installation of the data base. Remove this diskette from Drive A and store in a proper location.

To execute the Mineplan Notices data base in DOS, do the following:

1. Select DOS Command Processor from the PC's Main Menu.

2. C: \>CD \ASPEN\MINEPLAN, depress <Enter> or <Return>.

3. C: \ASPEN\MINEPLAN>ASPN NOTICES, depress <Enter> or <Return>. This will execute Aspen/2 and take the user directly into the Mineplan Notices data base. The user must be in the ASPEN\MINEPLAN directory for all operations within the data base to function properly.

   Upon entering the command DONE within Aspen/2 the user will be returned to the DOS prompt. To return to the PC's Main Menu, do the following:

   C:\ASPEN\MINEPLAN>EXIT, depress <Enter> or <Return>.

To execute the Mineplan Notices data base from the Menu, do the

following:

1. Select Applications Menu from your PC's Main Menu.

2. Select Mineplan Notices Data Base from this menu.

The operation of the data base is the same from this point, when the Aspen command DONE is entered, the system will return the user to the menu that the data base was selected from.

ASPEN/2 * Mineplan Notices Data Base * 09/16/88 * Notices * Page 1

E1. NOTICE-PLAN #
E2. CASE TYPES
E3. FY
E4. DISTRICT
E5. RESOURCE AREA
E6. COUNTY
E7. STATUS
E8. ACTIVITY
E9. DATE OF LAST COMPL CHECK-YYMMDD
E10. RECORD OF NONCOMPL
E11. ACRES DISTURBED
E12. ACRES RECLAIMED
E13. HAZARDOUS MATERIAL ON SITE
E14. OPERATOR
E15. ADDRESS LINE1
E16. ADDRESS LINE2
E17. ADDRESS LINE3
E18. TELEPHONE
E19. DATE RECEIVED-YYMMDD
E20. DATE ACKNOWLEDGED-YYMMDD
E21. DATE ACCEPTED-YYMMDD
E22. DATE APPROVED-YYMMDD
E23. DATE AMENDED1-YYMMDD
E24. DATE CLOSED-YYMMDD
E25. BOND AMOUNT
E26. UTM-ZONE
E27. UTM-EASTING COORDINATE
E28. UTM-NORTHING COORDINATE
E29. MERIDIAN
E30. TWP1
E31. RNG1
E32. TWP1RNG1SEC1
E33. TWP1RNG1SEC2
E34. TWP2
E35. RNG2
E36. TWP2RNG2SEC1
E37. TWP2RNG2SEC2
E38. TWP3
E39. RNG3
E40. TWP3RNG3SEC1
E41. TWP3RNG3SEC2
E42. TWP4
E43. RNG4
E44. TWP4RNG4SEC1
E45. TWP4RNG4SEC2
E46. MINING CLAIM SERIAL # PREFIX
E47. CLAIMANT
E48. PROJECT AREA
E49. MINERAL
E50. TOTAL # OF MINING CLAIMS
E51. MC SERIAL # FROM 1
E52. MC SERIAL # TO 1
E53. MC SERIAL # FROM 2
E54. MC SERIAL # TO 2
E55. MC SERIAL # FROM 3
E56. MC SERIAL # TO 3
E57. MC SERIAL # FROM 4

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E58. MC SERIAL # TO 4
E59. MC SERIAL # FROM 5
E60. MC SERIAL # TO 5
E61. MC SERIAL # FROM 6
E62. MC SERIAL # TO 6
E63. MC SERIAL # FROM 7
E64. MC SERIAL # TO 7
E65. MC SERIAL # FROM 8
E66. MC SERIAL # TO 8
E67. MC SERIAL # FROM 9
E68. MC SERIAL # TO 9
E69. MC SERIAL # FROM 10
E70. MC SERIAL # TO 10
E71. MC SERIAL # FROM 11
E72. MC SERIAL # TO 11
E73. MC SERIAL # FROM 12
E74. MC SERIAL # TO 12
E75. MC SERIAL # FROM 13
E76. MC SERIAL # TO 13
E77. MC SERIAL # FROM 14
E78. MC SERIAL # TO 14
E79. MC SERIAL # SINGLE 1
E80. MC SERIAL # SINGLE 2
E81. MC SERIAL # SINGLE 3
E82. MC SERIAL # SINGLE 4
E83. MC SERIAL # SINGLE 5
E84. MC SERIAL # SINGLE 6
E85. MC SERIAL # SINGLE 7
E86. MC SERIAL # SINGLE 8
E87. MC SERIAL # SINGLE 9
E88. MC SERIAL # SINGLE 10
E89. MC SERIAL # SINGLE 11
E90. MC SERIAL # SINGLE 12
E91. MC SERIAL # SINGLE 13
E92. MC SERIAL # SINGLE 14
E93. MC SERIAL # SINGLE 15
E94. MC SERIAL # SINGLE 16
E95. MC SERIAL # SINGLE 17
E96. MC SERIAL # SINGLE 18
E97. MC SERIAL # SINGLE 19
E98. MC SERIAL # SINGLE 20
E99. MC SERIAL # SINGLE 21
E100. MC SERIAL # SINGLE 22
E101. MC SERIAL # SINGLE 23
E102. MC SERIAL # SINGLE 24
E103. MC SERIAL # SINGLE 25
E104. MC SERIAL # SINGLE 26
E105. MC SERIAL # SINGLE 27
E106. MC SERIAL # SINGLE 28
E107. MC SERIAL # SINGLE 29
E108. MC SERIAL # SINGLE 30
E109. REMARKS1
E110. REMARKS2
E111. REMARKS3
E112. REMARKS4
E113. REMARKS5
E114. REMARKS6
E115. REMARKS7

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E116. REMARKS8
E117. REMARKS9
E118. REMARKS10
E119. REMARKS11
E120. REMARKS12
E121. REMARKS13
E122. REMARKS14
E123. REMARKS15
E124. REMARKS16
E125. REMARKS17
E126. REMARKS18
E127. REMARKS19
E128. REMARKS20
E129. REMARKS21
E130. REMARKS22
E131. CHECK SUM OF # OF MINING CLAIMS
E132. SYSTEM STATUS
E133. TEMP1
E134. TEMP2
E135. TEMP3

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E1. NOTICE-PLAN #
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 38 bytes, data 90 bytes per 8 items.
Input width: 15 bytes - output width: 15 bytes.

E2. CASE TYPES
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 113 bytes, data 3 bytes per 8 items.
Input width: 1 byte - output width: 20 bytes.
Number of names: 6

V1. (N) 3809 Notice
V2. (P) 3809 Plan
V3. (W) 3802 Wilderness Plan
V4. (X) Filler 1
V5. (Y) Filler 2
V6. (Z) Filler 3

E3. FY
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 27 bytes, data 16 bytes per 8 items.
Input width: 4 bytes - output width: 4 bytes.

E4. DISTRICT
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 190 bytes, data 4 bytes per 8 items.
Input width: 5 bytes - output width: 11 bytes.
Number of names: 11

V1. (NV010) Elko
V2. (NV020) Winnemucca
V3. (NV030) Carson City
V4. (NV040) Ely
V5. (NV050) Las Vegas
V6. (NV060) Battle Mtn
V7. (CA020) Susanville
V8. (NV111) Filler 1
V9. (NV222) Filler 2
V10. (NV333) Filler 3
V11. (NV444) Filler 4

E5. RESOURCE AREA
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 301 bytes, data 5 bytes per 8 items.
Input width: 6 bytes - output width: 15 bytes.
Number of names: 17

V1. (NV0148) Elko
V2. (NV0158) Wells
V3. (NV0248) Paradise-Denio
V4. (NV0268) Sonoma-Gerlach
V5. (NV0348) Lahontan
V6. (NV0358) Walker
V7. (NV0468) Schell
V8. (NV0478) Egan
V9. (NV0548) Stateline
V10. (NV0558) Caliente

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V11. (NV0648) Shoshone-Eureka
V12. (NV0658) Tonopah
V13. (CA0268) Cedarville
V14. (XX1111) Filler 1
V15. (XX2222) Filler 2
V16. (XX3333) Filler 3
V17. (XX4444) Filler 4

E6. COUNTY
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 331 bytes, data 5 bytes per 8 items.
Input width: 5 bytes - output width: 11 bytes.
Number of names: 23

V1. (NV001) Churchill
V2. (NV003) Clark
V3. (NV005) Douglas
V4. (NV007) Elko
V5. (NV009) Esmeralda
V6. (NV011) Eureka
V7. (NV013) Humboldt
V8. (NV015) Lander
V9. (NV017) Lincoln
V10. (NV019) Lyon
V11. (NV021) Mineral
V12. (NV023) Nye
V13. (NV027) Pershing
V14. (NV029) Storey
V15. (NV031) Washoe
V16. (NV033) White Pine
V17. (NV510) Carson City
V18. (CA003) Alpine
V19. (CA035) Lassen
V20. (XX111) Filler 1
V21. (XX222) Filler 2
V22. (XX333) Filler 3
V23. (XX444) Filler 4

E7. STATUS
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 128 bytes, data 4 bytes per 8 items.
Input width: 2 bytes - output width: 8 bytes.
Number of names: 9

V1. (AC) Active
V2. (NA) Inactive
V3. (CL) Closed
V4. (UU) Filler 1
V5. (VV) Filler 2
V6. (WW) Filler 3
V7. (XX) Filler 4
V8. (YY) Filler 5
V9. (ZZ) Filler 6

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E8. ACTIVITY
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 396 bytes per 8 items.
Input width: 66 bytes - output width: 66 bytes.

E9. DATE OF LAST COMPL CHECK-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 56 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E10. RECORD OF NONCOMPL
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 64 bytes, data 3 bytes per 8 items.
Input width: 1 byte - output width: 3 bytes.
Number of names: 4

V1. (Y) Yes
V2. (N) No
V3. (X) F11
V4. (Z) F12

E11. ACRES DISTURBED
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 58 bytes, data 27 bytes per 8 items.
Input width: 9 bytes - output width: 9 bytes.
Numbers range from 0.0 to 9,999,999.9 at intervals of 0.1

E12. ACRES RECLAIMED
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 58 bytes, data 27 bytes per 8 items.
Input width: 9 bytes - output width: 9 bytes.
Numbers range from 0.0 to 9,999,999.9 at intervals of 0.1

E13. HAZARDOUS MATERIAL ON SITE
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 72 bytes, data 3 bytes per 8 items.
Input width: 1 byte - output width: 3 bytes.
Number of names: 4

V1. (Y) Yes
V2. (N) No
V3. (X) F11
V4. (Z) F12

E14. OPERATOR
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E15. ADDRESS LINE1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 38 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

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E16. ADDRESS LINE2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 38 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E17. ADDRESS LINE3
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 38 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E18. TELEPHONE
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 72 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.

E19. DATE RECEIVED-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 45 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E20. DATE ACKNOWLEDGED-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 49 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E21. DATE ACCEPTED-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 45 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E22. DATE APPROVED-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 45 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E23. DATE AMENDED1-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 45 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E24. DATE CLOSED-YYMMDD
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 43 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E25. BOND AMOUNT
Data type: Numeric, type 3 (Currency).
Storage required: dictionary, 54 bytes, data 30 bytes per 8 items.
Input width: 9 bytes - output width: 12 bytes.
Numbers range from 0 to 999,999,999 at intervals of 1

ASPEN/2 * Mineplan Notices Data Base * 09/16/88 * Notices * Page 5

E26. UTM-ZONE
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 33 bytes, data 8 bytes per 8 items.
Input width: 2 bytes - output width: 2 bytes.

E27. UTM-EASTING COORDINATE
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 47 bytes, data 24 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.

E28. UTM-NORTHING COORDINATE
Data type: Text, type 1 (Numeric subset).
Storage required: dictionary, 48 bytes, data 28 bytes per 8 items.
Input width: 7 bytes - output width: 7 bytes.

E29. MERIDIAN
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 97 bytes, data 3 bytes per 8 items.
Input width: 2 bytes - output width: 14 bytes.
Number of names: 5

V1. (21) Mt Diablo
V2. (27) San Bernardino
V3. (77) Filler 1
V4. (88) Filler 2
V5. (99) Filler 3

E30. TWP1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E31. RNG1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E32. TWP1RNG1SEC1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E33. TWP1RNG1SEC2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 300 bytes per 8 items.
Input width: 50 bytes - output width: 50 bytes.

E34. TWP2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

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E35. RNG2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E36. TWP2RNG2SEC1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E37. TWP2RNG2SEC2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 300 bytes per 8 items.
Input width: 50 bytes - output width: 50 bytes.

E38. TWP3
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E39. RNG3
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E40. TWP3RNG3SEC1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E41. TWP3RNG3SEC2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 300 bytes per 8 items.
Input width: 50 bytes - output width: 50 bytes.

E42. TWP4
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E43. RNG4
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 29 bytes, data 30 bytes per 8 items.
Input width: 5 bytes - output width: 5 bytes.

E44. TWP4RNG4SEC1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 264 bytes per 8 items.
Input width: 44 bytes - output width: 44 bytes.

E45. TWP4RNG4SEC2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 300 bytes per 8 items.
Input width: 50 bytes - output width: 50 bytes.

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E46. MINING CLAIM SERIAL # PREFIX
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 53 bytes, data 18 bytes per 8 items.
Input width: 3 bytes - output width: 3 bytes.

E47. CLAIMANT
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 402 bytes per 8 items.
Input width: 67 bytes - output width: 67 bytes.

E48. PROJECT AREA
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 37 bytes, data 114 bytes per 8 items.
Input width: 19 bytes - output width: 19 bytes.

E49. MINERAL
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 723 bytes, data 6 bytes per 8 items.
Input width: 3 bytes - output width: 15 bytes.
Number of names: 59

V1. (020) Antimony
V2. (040) Asbestos
V3. (051) Barite
V4. (130) Clay
V5. (170) Copper
V6. (200) Diatomite
V7. (220) Feldspar
V8. (231) Fluorspar
V9. (250) Gem Stone
V10. (260) Gold
V11. (263) Gold/Silver
V12. (280) Gypsum
V13. (320) Iron Ore
V14. (340) Lead
V15. (350) Lithium
V16. (353) Limestone
V17. (362) Magnesite
V18. (380) Mercury
V19. (400) Molybdenum
V20. (420) Nickel
V21. (440) Perlite
V22. (490) Pumice
V23. (510) Rare Earths
V24. (520) Sand and Gravel
V25. (536) Silica Sand
V26. (540) Silver
V27. (560) Stone
V28. (580) Sulfur
V29. (591) Talc
V30. (640) Tungsten
V31. (651) Uranium
V32. (690) Zeolite
V33. (700) Zinc
V34. (A00) Filler 1
V35. (B00) Filler 2
V36. (C00) Filler 3

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V37. (D00) Filler 4
V38. (E00) Filler 5
V39. (F00) Filler 6
V40. (G00) Filler 7
V41. (H00) Filler 8
V42. (I00) Filler 9
V43. (J00) Filler10
V44. (K00) Filler11
V45. (L00) Filler12
V46. (M00) Filler13
V47. (N00) Filler14
V48. (O00) Filler15
V49. (P00) Filler16
V50. (Q00) Filler17
V51. (R00) Filler18
V52. (S00) Filler19
V53. (T00) Filler20
V54. (U00) Filler21
V55. (V00) Filler22
V56. (W00) Filler23
V57. (X00) Filler24
V58. (Y00) Filler25
V59. (Z00) Filler26

E50. TOTAL # OF MINING CLAIMS
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 67 bytes, data 20 bytes per 8 items.
Input width: 6 bytes - output width: 6 bytes.
Numbers range from 1 to 999,999 at intervals of 1

E51. MC SERIAL # FROM 1
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E52. MC SERIAL # TO 1
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E53. MC SERIAL # FROM 2
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E54. MC SERIAL # TO 2
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E55. MC SERIAL # FROM 3
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E56. MC SERIAL # TO 3
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E57. MC SERIAL # FROM 4
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E58. MC SERIAL # TO 4
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E59. MC SERIAL # FROM 5
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E60. MC SERIAL # TO 5
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E61. MC SERIAL # FROM 6
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E62. MC SERIAL # TO 6
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E63. MC SERIAL # FROM 7
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E64. MC SERIAL # TO 7
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E65. MC SERIAL # FROM 8
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E66. MC SERIAL # TO 8
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E67. MC SERIAL # FROM 9
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 61 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E68. MC SERIAL # TO 9
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 59 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E69. MC SERIAL # FROM 10
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 62 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E70. MC SERIAL # TO 10
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 60 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E71. MC SERIAL # FROM 11
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 62 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E72. MC SERIAL # TO 11
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 60 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E73. MC SERIAL # FROM 12
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 62 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E74. MC SERIAL # TO 12
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 60 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E75. MC SERIAL # FROM 13
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 62 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E76. MC SERIAL # TO 13
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 60 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E77. MC SERIAL # FROM 14
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 62 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E78. MC SERIAL # TO 14
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 60 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E79. MC SERIAL # SINGLE 1
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E80. MC SERIAL # SINGLE 2
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E81. MC SERIAL # SINGLE 3
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E82. MC SERIAL # SINGLE 4
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E83. MC SERIAL # SINGLE 5
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E84. MC SERIAL # SINGLE 6
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E85. MC SERIAL # SINGLE 7
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E86. MC SERIAL # SINGLE 8
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E87. MC SERIAL # SINGLE 9
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 63 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E88. MC SERIAL # SINGLE 10
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E89. MC SERIAL # SINGLE 11
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E90. MC SERIAL # SINGLE 12
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E91. MC SERIAL # SINGLE 13
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E92. MC SERIAL # SINGLE 14
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E93. MC SERIAL # SINGLE 15
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E94. MC SERIAL # SINGLE 16
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E95. MC SERIAL # SINGLE 17
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E96. MC SERIAL # SINGLE 18
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E97. MC SERIAL # SINGLE 19
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E98. MC SERIAL # SINGLE 20
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E99. MC SERIAL # SINGLE 21
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E100. MC SERIAL # SINGLE 22
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E101. MC SERIAL # SINGLE 23
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E102. MC SERIAL # SINGLE 24
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E103. MC SERIAL # SINGLE 25
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E104. MC SERIAL # SINGLE 26
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E105. MC SERIAL # SINGLE 27
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E106. MC SERIAL # SINGLE 28
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E107. MC SERIAL # SINGLE 29
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E108. MC SERIAL # SINGLE 30
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 64 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

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E109. REMARKS1
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 408 bytes per 8 items.
Input width: 68 bytes - output width: 68 bytes.

E110. REMARKS2
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E111. REMARKS3
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E112. REMARKS4
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E113. REMARKS5
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E114. REMARKS6
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E115. REMARKS7
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E116. REMARKS8
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E117. REMARKS9
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 33 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E118. REMARKS10
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E119. REMARKS11
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

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E120. REMARKS12
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E121. REMARKS13
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E122. REMARKS14
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E123. REMARKS15
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E124. REMARKS16
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E125. REMARKS17
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E126. REMARKS18
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E127. REMARKS19
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E128. REMARKS20
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E129. REMARKS21
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

E130. REMARKS22
Data type: Text, type 3 (Alphanumeric subset).
Storage required: dictionary, 34 bytes, data 462 bytes per 8 items.
Input width: 77 bytes - output width: 77 bytes.

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E131. CHECK SUM OF # OF MINING CLAIMS
Data type: Numeric, type 2 (Commas suppressed).
Storage required: dictionary, 74 bytes, data 40 bytes per 8 items.
Input width: 12 bytes - output width: 12 bytes.
Numbers range from 1 to 999,999,999,999 at intervals of 1

E132. SYSTEM STATUS
Data type: Name, type 1 (Coded input).
Storage required: dictionary, 119 bytes, data 4 bytes per 8 items.
Input width: 2 bytes - output width: 9 bytes.
Number of names: 8

V1. (AC) Active
V2. (BB) Break
V3. (CC) Corrected
V4. (HH) Hidden
V5. (RR) Restored
V6. (XX) Filler1
V7. (YY) Filler2
V8. (ZZ) Filler3

E133. TEMP1
Data type: Numeric, type 1 (Normal output).
Storage required: dictionary, 48 bytes, data 30 bytes per 8 items.
Input width: 10 bytes - output width: 12 bytes.
Numbers range from 0.0 to 99,999,999.9 at intervals of 0.1

E134. TEMP2
Data type: Numeric, type 3 (Currency).
Storage required: dictionary, 48 bytes, data 27 bytes per 8 items.
Input width: 8 bytes - output width: 11 bytes.
Numbers range from 0 to 99,999,999 at intervals of 1

E135. TEMP3
Data type: Numeric, type 1 (Normal output).
Storage required: dictionary, 48 bytes, data 27 bytes per 8 items.
Input width: 8 bytes - output width: 10 bytes.
Numbers range from 0 to 99,999,999 at intervals of 1

Version 4.5 Version 4.5

Enhancements to the Mineplan Notices Aspen/2 Data Base

This documentation briefly explains the enhancements that have been incorporated into the Mineplan Notices Aspen/2 Data Base Version 4.5.

Any questions concerning the operation, loading or execution of the data base can be directed to Tommy Hubert, NV954 at FTS 470-5836.

Any questions concerning data, what and what should not be entered, ect. should be directed to the Division of Mineral Resources in the State Office.

INSTALLING VERSION 4.5

For complete installation instructions print the file PRINTME.INS, which is found on the diskette that accompanies this documentation.

UPDATING VERSION 4.2 TO 4.5

For complete instructions for updating Version 4.2 to 4.5 print the file PRINTME.UPD, which is found on the diskette that accompanies this documentation.

Version 4.5 Version 4.5

Enhancements to the Mineplan Notices
Aspen/2 Data Base

MAIN MENU The following are the new selections which have been added or replace options found on the old menu:

- **ADD** This selection remains the same.
- **CORRECT** This selection remains the same.
- **BROWSE** This selection remains the same.
- **SEARCH** This is a NEW selection that will bring up a SEARCH options menu (discussed later).
- **REPORT** This is a NEW selection that will bring up a REPORT options menu (discussed later).
- **BACKUP** This is a NEW selection that replaces the old TONSO. This selection brings up a BACKUP options menu (discussed later).

ADD MENU This menu remains the same, however, all commands have been abbreviated for faster operation, i.e. ENTER/1 is now EN1.

CORRECT MENU This menu also has the abbreviated commands, i.e. UPDATE/1 is now UP1. The following changes have been made:

- **UP1** This command is the same, brings up ONLY the first screen for the Notice Plan # entered.
- **UP2** NEW, this command brings up ONLY the second screen for the Notice Plan # entered.
- **UP3** NEW, this command brings up ONLY the third screen for the Notice Plan # entered.
- **UP4** NEW, this command brings up ONLY the fourth screen for the Notice Plan # entered.
- **UP5** Formerly UPDATE/2, brings up the first two screens.
- **UP6** Formerly UPDATE/3, brings up the first

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Enhancements to the Mineplan Notices
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three screens.

UP7 Formerly UPDATE/4, brings up all four screens.

BROWSE MENU This menu also has the abbreviated commands, i.e. VIEW/1 is now VW1. The same changes that were made on the CORRECT MENU hold true for the BROWSE MENU, i.e. VW2 brings up ONLY the second screen, ect.

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Enhancements to the Mineplan Notices
Aspen/2 Data Base

SEARCH MENU NEW, the following options are available from this menu:

REM This command will ask the user for a KEYWORD to search for in all remarks fields (E109 to E130). This search can take a long time dependent on the number of records in the data base. BE PATIENT!!! Once the records have been found, the system will tell you the results of the query. Then the system will do a screen display of the Notice Plan # and the before mentioned remarks fields. The user can scroll through the records using the <ESC> or <Execute> keys or to terminate the viewing press <PgDn> on the "Clones" or <NEXT> to get to status line and enter a "D" and <Execute> on the Wang.

TR This command will ask the user for the 5 character Township, then the 5 character Range and will then search all Township and Range fields (E30 and E31, E34 and E35, E38 and E39, E42 and E43) for the entered combination. As was the case with the REM command this command takes time. The system will display the results and bring up screen two for viewing. Follow the same instructions as for REM at this point.

TRS This command is similar to the TR command, except that the user will be queried for a section number. The search will take place through all of the Township, Range and Section fields (E30 to E45) for the entered combination. Once data records are located the system will display the results and bring up screen two for viewing. Follow the same instructions for REM at this point.

NOTE: For proper operation on searches of sections numbered 1 to 9, they should be entered as 01, 02, 03, 04, 05, 06, 08, 09. If this was not done on original entry, they should be

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corrected. Users could use UP2 and enter >N30-81-036N, when prompted for Notice Plan #, to correct sections for Notice Plan #s greater than the one entered. This is useful when the user have edited part of the data base and want to start up where they left off.

MCS — This command works like the other "SEARCH" commands in that it will locate those records that have the entered serial number in the serial number fields (E51 to E108). It will determine if the serial number occurs in the groups of serial numbers (the FROM and TO fields). As mentioned before it takes some time, once the records are found the third screen will appear. Follow the same instructions for REM at this point.

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Enhancements to the Mineplan Notices
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REPORT MENU NEW, the following options are available from this menu:

RPT1 This command will produce a printed report of the unreclaimed acres and the cost and amount of time for the reclamation of those acres. The report is base on a request from the WO for these figures.

NOTE: Any questions concerning the layout or information within this report should be directed to the Division of Mineral Resources in the State Office.

This is the only formatted printed report that has been requested to date. If any users have others that they must print on a regular basis, send in the request to NV954 and we will try to incorportate the report in the next enhancement release.

BACKUP MENU NEW, the following options are available from this menu:

BDFY This command will backup data by the Fiscal Year entered in the FY field (E3). The user will be asked to enter the 4 character year and will display the results for the year entered. Unlike the old TONSO the user is required to enter the drive, path and filename for the backed up data. This allows for the storing of data on floppy diskettes in Drive A: or Drive B:. If a user wishes to store a file on C: drive they simply enter the filename. The file will be stored under the directory \ASPEN\MINEPLAN. If the user wishes to store the date file elsewhere, they must enter the full pathname and filename, i.e. \ASPEN\WORK\BKUPFY.DAT.

NOTE: The FY must be entered in the data base as 4 characters, i.e. FY88 entered as 1988, ect.

BDRA This command will backup data by

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Resource Area (see data element dictionary within the data base for the proper codes). Follow the instructions for BDFY from this point.

BDGR This command allows for the backing up of data by Item (Record) numbers. The user is asked to enter a beginning Item number and an ending Item number. Follow the instructions for BDFY from this point.

BDAR This command will backup all records in the data base. Follow the instructions for BDFY from this point.

The following are the four screens and the associated elements for each field on the screens within the Mineplan Notices data base structure. The element length is shown in maximum output width:

Screen One

3802/3809 Plans and Notices

Notice/Plan No:E1_____CaseType:E2_____FY:E3_____
Dist:E4_____ RA:E5_____CO:E6_____Status:E7_____
Activity:E8_____
Date of Last Compliance Check:E9_____Record of Non-Compliance:E10___
Acres Disturbed:E11_____Acres Reclaimed:E12___Haz Mat on Site:E13___

Operator:E14_____
Address:E15 _____
E16 _____
E17 _____
Telephone:E18_____

Date Rec'd:E19_____Date Acknowledged:E20_____Date Accepted:E21____
Date Approved:E22_____Date Amended:E23_____ Date Closed:E24_____
Bond Amount:E25_____

Screen Two

Legal Description Information for Notice/Plan No:E1_____

UTM: Zone:E26_____Easting:E27_____Northing:E28_____Meridian:E29_____

TWP:E30_____ RNG:E31_____Sec.E32_____
E33_____
TWP:E34_____ RNG:E35_____Sec.E36_____
E37_____
TWP:E38_____ RNG:E39_____Sec.E40_____
E41_____
TWP:E42_____ RNG:E43_____Sec.E44_____
E45_____

Screen Three

Mining Claim Information for Notice/Plan No:E1_____

Claimant:E47_____
Proj Area:E48_____Mineral:E49_____ MC Total:E50_____

Blocks of Serial Numbers

From	To	From	To
E51_____	E52_____	E53_____	E54_____
E55_____	E56_____	E57_____	E58_____
E59_____	E60_____	E61_____	E62_____
E63_____	E64_____	E65_____	E66_____
E67_____	E68_____	E69_____	E70_____
E71_____	E72_____	E73_____	E74_____
E75_____	E76_____	E77_____	E78_____

Individual Serial Numbers

E79_____	E80_____	E81_____	E82_____	E83_____
E84_____	E85_____	E86_____	E87_____	E88_____
E89_____	E90_____	E91_____	E92_____	E93_____
E94_____	E95_____	E96_____	E97_____	E98_____
E99_____	E100_____	E101_____	E102_____	E103_____
E105_____	E106_____	E107_____	E108_____	E108_____

Remarks:E109_____
E110_____

Screen Four

General Information for Notice/PLan No: E1_____

E111_____
E112_____
E113_____
E114_____
E115_____
E116_____
E117_____
E118_____
E119_____
E120_____
E121_____
E122_____
E123_____
E124_____
E125_____
E126_____
E127_____
E128_____
E129_____
E130_____

ENVIRONMENTAL ASSESSMENT (EA) FORMAT OPTION #1

This format may be used for relatively simple and straightforward EAs. Headings are underlined.

- -

EA TITLE/HEADING

Identify project title and location, EA number, case file number (if any), name of application (if applicable), name and location of BLM office preparing the EA, and EA preparation date.

PURPOSE AND NEED FOR THE PROPOSED ACTION

Describe the purpose and need for and objective of the proposed action. Identify the land use plan or plans which cover the area and indicate whether the action is in conformance with those plans. Include page number reference to the Record of Decision.

PROPOSED ACTION AND ALTERNATIVE

Proposed Action. Describe the proposed action. Reference attached illustrations or maps as appropriate. Describe bureauwide policy or program requirements, including standard or routine procedures.

Alternatives. Describe each alternative, if any, to the same level of detail as the proposed action.

ENVIRONMENTAL IMPACTS

Identify critical elements and, if required by program-specific guidance, other elements which are not present and/or not affected (see Appendix 7 of the Environmental Handbook, H-1790-1).

Impacts of the Proposed Action. Identify direct, indirect and cumulative impacts on the affected environment for the proposed action given all policy or program requirements and standard or routine procedures which apply.

ENVIRONMENTAL ASSESSMENT (EA) FORMAT OPTION #1 (continued)

Impacts of Alternative. Identify direct, indirect and cumulative impacts on the affected environment for each alternative, if any, to the same level of detail as for the proposed action.

Mitigation Measures and Residual Impacts. Describe measures, if any, which could be applied to mitigate some or all of the impacts identified for the proposed action and each alternative. For the proposed action and each alternative, identify direct, indirect and cumulative impacts on the affected environment which remain after application of mitigation measures.

PERSONS OR AGENCIES CONSULTED

List persons, agencies and organizations consulted in the preparation of the EA.

* Attach list of preparers, illustrations, maps, or other material referenced or necessary.

- -

ENVIRONMENTAL ASSESSMENT (EA) FORMAT OPTION #2

This format may be used for complex or potentially controversial EAs. Headings are underlined.

COVER LETTER

For an EA issued for public review, a cover letter may be desirable. It would identify the purpose of the review, the review period and how public comments will be taken into consideration.

EA COVER SHEET

Identify project title and type, project location, EA number, case file or other identifying number (if any), applicant name and address (if applicable), name and location of BLM office preparing the EA, and the EA preparation date.

BODY OF EA

INTRODUCTION

Purpose and Need for the Proposed Action. Describe the purpose and need for and the objective of the proposed action.

Conformance with Land Use Plan. Identify applicable RMP(s) or MFP(s) and approval date(s) of the Record of Decision. Indicate how the proposed action has been determined to conform with the applicable plan(s). Include page number reference to the Record of Decision. Identify any constraints on actions in the area or other determinations specified in the land use plan(s) which are relevant to the proposed action.

Relationship to Statutes, Regulations or Other Plans. Indicate whether the proposed action is consistent with other Federal agency, State or local programs. Identify pertinent statutes, regulations or plans which are necessary for understanding the EA. Identify other authorizing actions needed before the proposed action can be implemented, e.g., local, state, and federal permits required.

PROPOSED ACTION AND ALTERNATIVES

Proposed Action. Describe the proposed action. Include illustrations or maps as appropriate. Describe bureauwide policy or program requirements, including standard or routine stipulations.

ENVIRONMENTAL ASSESSMENT FORMAT OPTION #2 (continued)

Alternatives. Describe each alternative, if any, to the same level of detail as the proposed action.

AFFECTED ENVIRONMENT

General Setting. Describe the general setting. Include a map.

Affected Resources. Describe all resources and values which are affected by the proposed action or alternatives. Identify all critical elements and, if required by program-specific guidance, other elements which are not present and/or affected by the proposed action or alternatives (see Appendix 7 of the Environmental Handbook, H-1790-1).

ENVIRONMENTAL IMPACTS

Impacts of the Proposed Action. Identify direct, indirect and cumulative impacts on the affected environment for the proposed action given all policy or program requirements and standard or routine procedures which apply.

Impacts of Alternatives. Identify direct, indirect and cumulative impacts on the affected environment for each alternative, if any, to the same level of detail as for the proposed action.

Mitigation Measures. Describe measures which could be applied to mitigate some or all of the impacts identified for the proposed action and each alternative.

Residual Impacts. For the proposed action and each alternative, identify direct, indirect and cumulative impacts on the affected environment which remain after application of mitigation measures. This discussion may include identification of unavoidable adverse impacts, short term/long term effects on productivity, and irreversible/irretrievable commitments of resources.

CONSULTATION AND COORDINATION

Persons and Agencies Consulted. List all persons, agencies and organizations consulted; purpose and results of such consultation.

* Attach list of preparers indicating briefly their areas of expertise, illustrations, maps, and any other materials referenced or necessary for understanding the EA.

MEMORANDUM OF AGREEMENT
BETWEEN
THE BUREAU OF LAND MANAGEMENT
AND
ST. JOE GOLD CORPORATION

I. INTRODUCTION AND PURPOSE

This Memorandum of Agreement (MOA) establishes an agreement between the Bureau of Land Management (BLM, Tonopah Resource Area, Battle Mountain District) and St. Joe Gold Corporation (St. Joe) to allow for a third party evaluation of the environmental effects of St. Joe's proposed Bullfrog/Montgomery Shoshone gold mine, milling and heap leach project.

II. GENERAL PROVISIONS

A. Representatives of the Parties to this Agreement. Representatives for the parties to this agreement are as follows: the BLM shall be represented by the Area Manager or his designated representative; and St. Joe shall be represented by its Environmental Coordinator.

B. Selection of the Consultant. The BLM shall select a qualified (i.e., professionals capable of rendering expert opinions in federal and Nevada courts of law with respect to the general subject matter of the study or sections of the environmental document) independent environmental consulting firm (hereinafter "Consultant") of recognized stature to assist them in carrying out the provisions of this MOA, having due regard to such contractor's ability to conduct comprehensive, interdisciplinary studies, the availability of its personnel, and its capability to assist and to perform the tasks required by this MOA within the time frames determined in the scoping and scheduling document, its experience in Nevada, and its objectivity.

Within 15 days from the execution of this MOA, St. Joe may recommend any consultant or subcontractor for the BLM's selection. Prior to any final selection of a Consultant, BLM shall make a preliminary selection of a Consultant or any subcontractors. St. Joe will have at least 15 working days in which to interview and to review the qualifications, expertise and experience of the individual investigators proposed to be used by the Consultant or any

subcontractor and to comment to and met with the BLM on such qualifications prior to final selection of the Consultant or any subcontractor by the BLM. St. Joe shall make any objections it has to the proposed Consultant or any subcontractor known to the BLM within the qualifications review period.

Consultant shall demonstrate previous in-house experience in the preparation of third party EA/EIS type documents for large hardrock mineral or precious metal mining projects. The Consultant with the best team of experienced investigators in the analysis of the environmental impacts of hardrock mining and permitting in the state of Nevada shall be preferred in the selection process. If for any reason a change in the Consultant or subcontractors becomes necessary, the BLM will engage in the same selection procedure provided by this paragraph, and apply the same standards to the selection of such subsequent Consultant or subcontractors.

C. Management of the Consultant. The BLM, in consultation with St. Joe, shall direct, supervise, and independently evaluate, all environmental work performed by the Consultant and its subcontractors in the preparation of the Environmental Assessment (EA) or Environmental Impact Statement (EIS) (the NEPA documents) and related work, and shall have complete control of the selection of subcontractors. St. Joe's Environmental Coordinator's role with respect to the Consultant's preparation of the NEPA documents is advisory. It is also to facilitate communication between St. Joe and the regulatory agencies, and to assist in maintaining the Consultant's schedule of activity and cost control. The contracts entered into with the Consultant or any subcontractors shall require compliance with the terms of this MOA.

D. Payment of Consultant. St. Joe shall contract with and be responsible for payment of all budgeted costs, approved in advance by St. Joe, of the Consultant (and its subcontractors) selected by the BLM for the collection and analysis of all necessary data, preparation of analyses, and compilation of the documentation necessary to meet the requirements of NEPA. The BLM, by entering into this agreement, does not agree to make or be responsible for any payments to the Consultant.

E. Consultant's Statement of Financial Interests. Contracts with the Consultant and its subcontractors shall provide that the Consultant and its subcontractors do not and shall not have any direct or indirect financial interest in the planning, design, construction or operation of the Bullfrog/Montgomery Shoshone Project, except with regard to the preparation of environmental documents, environmental analysis, and the factual information and documentation necessary for environmental permitting of the proposed mine.

1. Consultant shall provide to the Area Manager, within 15 days after selection by the BLM, a "Statement of Financial Interests" (SOFI) outlining ownership of stock, bonds, or other legal interests in St. Joe or its affiliated organizations by the Consultant, its officers, and those other employees who will be assigned to this project. The SOFT shall also list any previous contracts, and total amounts of each, between St. Joe and the Consultant.

2. Within 30 days of the date of submission of the SOFT, the Area Manager in consultation with St. Joe's Environmental Coordinator shall determine what measures, if any, are necessary to be taken in order to insure objectivity of the environmental document.

F. St. Joe's Plan of Operations. St. Joe shall submit a Plan of Operations in accordance with 43 CFR 3809 "Surface Management of Public Lands Under U.S. Mining Laws." As provided by Section 3809.0-5(f), the Plan of Operations will include the construction of roads, transmission lines, pipelines, and other means of access for support facilities across BLM lands. As a result of filing for approval of all necessary access rights across BLM lands as a part of the Plan of Operations, separate application for rights-of-way under the Federal Land Policy and Management Act may not be required.

III. SCOPING, SCHEDULING, AND INITIATION OF ENVIRONMENTAL STUDIES

A. Scoping. The BLM, in consultation with St. Joe, and with the assistance of the Consultant (as soon as one is selected) shall

specify and approve the level of environmental analysis required by NEPA based on a review of the scale and location of the project within 30 days of receipt of the Plan of Operations. This will include a review of the general availability of environmental data for the purpose of determining whether adequate baseline and environmental data already exists, or if further baselines and data acquisitions are necessary prior to preparation of environmental analyses.

B. Initiation of Environmental Studies. The Consultant may, with the approval of the BLM, order equipment and commence information and data collection and studies prior to final BLM approval of the level of environmental analysis based on informal discussions in order to prevent unnecessary delays and maintain the agreed upon schedule.

C. Scoping and Scheduling. The BLM Manager, assisted by the Consultant, and in consultation with St. Joe's Environmental Coordinator, shall develop scoping and scheduling documents to guide the collection of environmental, social and economic data necessary for the development of the NEPA documents.

The scoping document will accommodate all the work requirements for the supporting documents required by NEPA. It will include a description of the project, the alternatives to be analyzed, and the impacts (listing of affected and unaffected resources).

The scheduling document will establish a schedule for review and compliance by the federal, state, and local agencies. Both the BLM and St. Joe will make every reasonable effort to maintain the agreed upon schedule and encourage other responsible agencies, the Consultant, and subcontractors to adhere to the schedule as well.

BLM will take any actions necessary or desirable to involve the public.

The scoping Document may be amended or modified at the direction of the Area manager, after consultation with St. Joe's Environmental Coordinator, as the work of the Consultant proceeds.

D. Implementation of Scoping Document. Based on the Scoping Document, the Consultant shall prepare a statement of work and costs required to accomplish the preparation of the required documents. This statement of work will include the names and qualifications of the persons performing each aspect of the work, estimated man hours and costs required for completion of each aspect, a detailed schedule for performing each aspect, and a description of the internal and external procedures for assuring quality control.

The Consultant will report to the Area Manager and advise St. Joe's Environmental Coordinator once a month or more if necessary regarding the progress of the work, problems encountered, recommendations and modifications to the Scoping Document and suggested changes in personnel, methodology, and schedules of completion. As each portion of any draft or final document is completed such portion shall be transmitted simultaneously to the Area Manager, appropriate agencies at the direction of the Area Manager, and St. Joe's Environmental Coordinator. The Area Manager, in consultation with St. Joe's Environmental Coordinator and other responsible agencies, will review each draft and provide comments and directions as necessary for further work. The Area manager shall use his best efforts to obtain the comments of cooperating agencies within 15 working days after receipt of the draft sections. These comments will be submitted in typed form to the Area Manager which will then direct the Consultant to incorporate or respond to them as is appropriate.

The Consultant, upon the direction of the Area Manager, will provide to other responsible agencies access to and review of all procedures and underlying data used in developing submitted sections of the NEPA documents and other environmental support documents for permits. The Area Manager will direct their release to concerned government agencies and other interested parties.

St. Joe's Environmental Coordinator will have the option of attending all meetings between the Consultant and federal, state, and county agencies to ensure an accurate representation of St. Joe's plans and to integrate appropriate engineering response to proposed mitigation. If either party to this agreement is unable to attend any of the meetings the absent party will be provided with written minutes within 15 days.

In all instances involving questions on the content or relevance of environmental data and analysis, evaluations and wording, the Area Manager will make the final determination on the inclusion, deletion or modification of the same in the NEPA documents. However, St. Joe may direct the Consultant to collect any additional factual data or analysis consistent with its duties under NEPA.

E. Agency and Public Review and Comment Periods. Upon completion of the preliminary draft NEPA documents, the BLM will have a 15 day review period. Upon completion of the draft NEPA documents, the Area Manager shall be responsible for promptly organizing and conducting any required public and agency review and comment on the documents which shall be limited to a period not greater than 30 days for an EA and 90 days for an EIS after publication of notice in the Federal Register. The Consultant, upon request of the Area Manager, will prepare all necessary visual display materials necessary to facilitate public and agency review.

F. Confidentiality. The BLM shall maintain the confidentiality of all information documents or materials which St. Joe designates as confidential; however, in any instance where the BLM believes public release of information documents or materials are required and proposes to release to the public or allow access to any such information, documents, or materials which St. Joe has designated as confidential, it shall notify St. Joe of its intention to do so, and shall allow St. Joe a reasonable time in which to obtain a court order declaring such material and confidential prior to any such release or granting access.

IV. TERMINATION

Any party to this MOA may terminate the same upon 30 days written notice to the other party. During this period, the parties will actively attempt to resolve any disagreement.

This MOA terminates sixty (60) days after the approval of the final NEPA documents by the BLM, unless an appeal of the documents is made.

V. ASSIGNMENT AND MODIFICATION

This MOA may be assigned by St. Joe without the consent of any other party.

This MOA may be modified by the parties through a mutually agreed upon written amendment.

This MOA will be effective as of the last date signed below. The following are signatures of responsible officials of the parties to this agreement:

By: _____ Date: _____
Title: _____
Bureau of Land Management
Designated Representative: _____

By: _____ Date: _____
Title: _____
St. Joe Gold Corporation
Designated Representative: _____

GUIDE FOR RATING SOILS ACCORDING TO THEIR RELATIVE SUITABILITY FOR RANGE SEEDINGS IN NEVADA

USDA-ARS, FS, SCS
USDI-BLM
UNR-AG. EXP. STA.

Soil property	Good	Fair	Poor
Moisture regime.	Aquic, xeric, ustic, and xeric and ustic bordering on aridic or torric	Aridic and torric bordering on aquic, xeric or ustic.	Aridic and torric.
Effective moisture. 1/	>10 ins. (25 cm).	7-10 ins. (17.5-25 cm).	<7 ins. (17.5 cm).
Available water capacity.	Surface 10 ins. (27 cm) >1.25 ins. (3.2 cm). Soil profile > 4 ins. (10.2 cm).	Surface 10 ins. (25 cm) 0.75-1.25 ins. (1.9-3.2 cm). Soil profile 2.5-4 ins. (6.4-10.2 cm).	Surface 10 ins. (25 cm) <0.75 ins. (1.9 cm). Soil profile ≤2-5 ins.(6.4 cm).
Texture surface 7 ins. (17.5 cm).	LVFS, COSL, SL, FSL, VFSL, L SIL, SCL, and CL SICL with <35% C.	VFS, LFS, SC, SIC, C and CL and SICL with >35% C.	LS, LCOS, FS, COS.
Rock fragments in surface 7 ins. (17.5 cm).	GR <35%; CB <15%; ST <3%. Total rock fragments <35%.	GR <35%; CB 15-35%; ST 3-15%. Total rock fragments <35%.	GR >35%; CB 35%; ST >15%. Total rock fragments >35%.
Depth to abrupt A-B texture boundary. 1/	>10 ins.(25 cm).	>10 ins.(25 cm).	<10 ins.(25 cm).
Depth to bedrock or hardpan	>20 ins.(50 cm).	10-20 ins.(25-50 cm).	<10 ins.(25 cm).
Electrical conductivity-saturation extract-25°C.	<2 mmhos/cm (0.2 s/m) in upper 20 ins. (50 cm).	2-4 mmhos/cm (0.2-0.4 s/m) in upper 10 ins.(25 cm) and 4-8 mmhos/cm (0.4-0.8 s/m) in 10-20 (25-50 cm).	>4 mmhos/cm (0.4 s/m) in upper 10 ins.(25 cm) and/or >8 mmhos/cm) (0.8 s/m) in 10-20 ins.(25-50 cm).
Sodium adsorption-ratio	<8 in upper 20 ins.(50 cm).	8-13 in upper 10 ins.(25 cm) and <20 in 10-20 ins.(25-50 cm).	>13 in upper 10 ins.(25 cm) and/or >20 in 10-20 ins.(25-50 cm).
K x E slope 2/	<4 4/; <6 5/	4-6 4/;6-8 5/	>6 4/;>8 5/
I x C 6/	<60	<60	>60
Soil surface morphological types. 7/	Types I & II >60%; Type IV <5%; or with mollic epipedon 8/	Types I & II 20-60%; Type IV <10% 8/	Type III <60%; Type IV >10%. 8/

1/ Moisture from precipitation, run-on, and groundwater budgeted to actual evapotranspiration.

2/ Rate Vertisols and Vertic subgroups as poor.

3/ Sheet and rill erosion hazard (bare soil).

4/ For ustic bordering on aridic or torric, and aridic or torric bordering on ustic moisture regimes.

5/ For xeric, xeric bordering on aridic or torric, and aridic or torric bordering on xeric moisture regimes.

6/ Wind erosion hazard (bare soil).

7/ See: (1) Final Report. Properties, Occurrence and Management of Soils with Vesicular Surface Horizons, 1977. Contract No. 52500-CT 5(N). USDI-BLM and UNR-Ag. Exp. Sta. Eckert, Peterson, Wood, and Blackburn; and (2) Final Report. Properties, Occurrence and Management of Soils with Vesicular Surface Horizons-Effects of Trampling on Seedling Emergence. 1979. Contract No. YA 512-CT 7-14. USDI-BLM and UNR-Ag. Exp. Sta. Stephens, Eckert, and Peterson.

8/ Soils without crusting morphology are to be included in Types I & II for rating.

USDA-SCS
Reno, NV
6/20/83

NEVADA STATE DEPARTMENT OF AGRICULTURE
Division of Plant Industry
350 Capitol Hill Avenue, P.O. Box 11100
Reno, Nevada 89510

NOXIOUS WEEDS

Regulation designating the following weeds as "Noxious Weeds" for purposes of control and eradication under authority of Sections 555.130 to 555.200 inclusive, Nevada Revised Statutes.

1. Austrian fieldcress (Rorippa austriaca)

2. Austrian peaweed (Sphaerophysa salsula)
(Swainsona salsula)

3. Camelthorn (Alhagi camelorum)

4. Klamath weed (Hypericum perforatum)

5. Hemlock
Poison(Conium maculatum)
Water(Cicuta douglasii)

6. Horsenettle
Carolina(Solanum carolinense)
White(Solanum elaeagnifolium)

7. Knapweed
Diffuse(Centaurea diffusa)
Russian(Centaurea repens)

8. Leafy spurge(Eurphorbia esula)

9. Licorice(Glycyrrhiza lepidota)

10. Mediterranean sage(Salvia aethiopis)

11. Medusahead(Elymus caput-medusae)
(Taeniatherum asperum)

12. Puncturevine(Tribulus terrestris)

13. Sorghum species, perennial, such as, but not limited to: Johnsongrass, Sorghum almum and perennial Sweet Sudan.

14. Thistle
    Canada(Cirsium arvense)
    Musk(Carduus nutans)
    Scotch(Onopordum acanthium)
    Sow(Sonchus arvensis)
    Iberian star(Centaurea iberica)
    Purple(Centaurea calcitrapa)
    Yellow star(Centaurea solstitialis)

15. Toadflax, Dalmatian(Linaria dalmatica)

16. Whitetop/hoary cress(Cardaria draba, C. pubescens, Lepidium latifolium, L. repens)

INJURIOUS WEEDS

Regulation designating the following weeds as "Injurious Weeds" for purpose of control under authority of Sections 555.190 to 555.215, Nevada Revised Statutes.

1. Bindweed, field(Convolulus arvensis)

2. Buffalo-bur(Solanum rostratum)

3. Burdock(Arctium minus)

4. Dodder(Cuscuta spp.)

5. Dogbane(Apocynum cannabinum)

6. Halogeton(Halogeton glomeratus)

7. Iris, wild(Iris spp.)

8. Povertyweed(Iva axillaris)

9. Quackgrass(Agropyron repens)

10. Rue, African(Peganum harmala)

11. Sandbur(Cenchrus pauciflorus)

12. Tansey ragwort(Senecio jacobaea)

13. Saltcedar(Tamarix spp.)

Approved revision October 4, 1976, correcting technical spelling and typographical errors.

BLM Library
Denver Federal Center
Bldg. 50, OC-521
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